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AMERICAN
VETERINARY REVIEW.

EDITED AND PUBLISHED MONTHLY BY

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AMERICAN VETERINARY REVIEW.

JUNE, 1906.

Correspondents will please note the change in address of Dr. Roscoe R. Bell, from Seventh Avenue and Union Street, to 710 East Second Street, Borough of Brooklyn, New York City.

EDITORIAL.

EUROPEAN CHRONICLES.

PARIS, FRANCE, April 15, 1906.

THE ETIOLOGY OF STRINGHALT.—For a number of years Prof. R. Bossi, director of the Veterinary School of Turin, has published very interesting articles relating to the study of some clinical forms of the symptom known as chronic stringhalt—the chronic "harper" of the French.

In those various publications the following conclusions were presented:

(1) There exists among equines and bovines a form of chronic stringhalt, due to a *sudden displacement of the patella*, over the internal border of the femoral trochlea, beyond the normal limits. The displacement is essentially identical to those resulting from "cramps," but differs from these by its duration. This form of stringhalt differs from others by the "patellar cracking," which is heard at every step of the animal, by the mode of displacement of the leg, and because it can always be cured by section of the internal tibio-patellar ligament.

(2) There exists in solipeds a second form of chronic stringhalt which is very often observed in *dry arthritis of the hock.* In this there is no patellar cracking, and it is characterized by the specific mode with which occurs the flexion of the hock and of the fetlock. With this form section of the tendons, aponeu-

rosis or ligaments have no effect, because it is an alteration of motion with reflex origin.

(3) On rare occasions a third form of chronic stringhalt is observed in equines, which Hartwig has described, and which is due to the retraction of the muscle-stretcher of the fascia lata. This can be cured by section of the retracted muscle.

* * *

There is also chronic stringhalt which can be called *nervous*, observed in horses and also in dogs. It is associated with chronic lumbago, rheumatismal or traumatic, or, again, belonging to chorea. Here there is no patellar cracking, and myotomy or tenotomy is powerless.

There is no doubt that complete or partial removal of chronic stringhalt by section of the peroneo-phalangeal muscle has been observed, and, again, that the operation has failed on many occasions. This difference in results can be easily explained; *similar*, these forms of stringhalt are not identical—they differ in their causes and various lesions as much as in their nature and seat.

Dieckerhoff has called "idiopathic" stringhalt that which he said was due to *retraction and shortening of the tibial aponeurosis*, and he recommended the division of that aponeurosis as it passes over the hock. If this failed, section of the peroneus was to be performed.

Finally, Prof. Bossi concluded that there were evidently six forms of chronic stringhalt, some curable, others incurable, and further studies were desirable.

* * *

The above considerations, which I concisely resume from an article in the *Revue Générale of Leclainché*, are accompanied by the records of three cases of chronic stringhalt, which were treated by three different surgical operations, which by the results show that these three forms are curable, viz.: *patellar stringhalt*, that due to *retraction of the peroneo-phalangeus* muscle, and the *symptomatic of dry tarsal arthritis.* The first case, that of a donkey, was cured by double neurotomy of the

sciatic and anterior tibial nerves. The symptoms had disappeared when the animal arose from the bed where he had lain during the operation. It was due to dry arthritis. The second case was that of a gelding which had stringhalt in both hind legs, due to dry arthritis or retraction of the peroneus muscle. To complete the diagnosis, arthritis was treated by counter-irritation without any success. Tenotomy was then performed on both legs. The result was not immediately manifest, but after a few days improvement was evident, and complete recovery followed. The case was certainly not arthritic in nature. The third case was that of a horse affected with patellar stringhalt in both legs, existing for several months. This animal was treated by the subcutaneous section of the internal tibio-patellar ligament and also of the surrounding aponeurotic fascia. Recovery was not immediate, but gradually became complete. It was a case of patellar stringhalt, easily recognized by the presence of the patellar cracking and the peculiar action in flexion of the extremity.

This new addition by Prof. Bossi to this troublesome affection is no doubt of great interest.

* * *

ANTITUBERCULOUS VACCINATIONS.—In a general review of this subject, published in the *Journal of Zoötechnie*, Prof. Nicholas classifies the methods resorted to under two principal headings, preventive and curative vaccination.

Preventive vaccination has been attempted for a long time by the use of serum from hyper-immunized animals, by toxines secreted by the specific bacillus itself, more or less attenuated, and from human or bovine origin.

With *serotherapy* the results have been uncertain; while favorable with the serum of cattle in some instances, with that of cattle and dog only failures are recorded.

With *toxines* also the results have been contradictory. A certain degree of resistance is given to rabbits by some experimentators; with others the results are negative. Tried for a long time, tuberculin does not give immunity.

With the use of the *bacillus* itself, obtained from various sources, favorable results have been obtained in many cases. Introduced through intravenous injections, or subcutaneously, human or bovine viruses have given immunity—if not absolute, at least to such a degree as to allow animals to resist natural infection.

* * *

By *intravenous injection*, de Schweinitz and Schroeder, and McFadyean, show at various dates that cows submitted to virulent inoculations in series obtained high resistance to tubercular infection. Then came the great discovery of Behring, a method which gives a refractory state to the young bovines submitted to intravenous injections of tuberculous virus of human origin. The experimenters of the whole world set to work to control Behring's method. Thomassen, Pearson and Gilliland, Schroeder, Schlegel, Lorenz, Eber, Hutyra, Saas, Carper, Marks, Streilinger, in Germany, in Hungaria, in Italy at Mortara, in France at Melun, in Belgium at Brussels—and what is the general conclusion: the results obtained are different according to the experimenters; if it has great advantages, there are certainly objections; innocuous and efficacious at Melun, it does not meet with the same results everywhere, and the lack of resistance observed sometimes is due to causes to be looked into. Why should immunity last for only one year when Pearson and Gilliland have obtained one immunity resisting for two years, at least to permanent natural infection?

By *subcutaneous injection.* Arloing resorts to this method, and also to the preceding, in using bacilli of human and bovine origin. He has obtained great resistance and almost complete immunity with a given dose of very virulent bovine bacilli. He hopes to soon obtain a virus which will not be exposed to the complications observed in Behring's method.

Ligniéres also claims to be able to vaccinate by only one subcutaneous injection. He uses the human bacillus. The results obtained by this method during the experiments at Melun show that it needs improvement.

There are two other methods of preventive vaccination which have been tried.

Aviary Bacillus.—The immunity granted in this way is only temporary, not lasting and less solid than that obtained from bacilli of other origin. It is not used by any one.

Bacilli of Cold-Blooded Animals.—Turtle, lizard, and fish are the sources from which the bacilli are obtained. Friedmann succeeds to great immunity with the bacilli of the lizard, and claims to give immunity to cattle and to man [he operated on himself]. But the results are disapproved of by others. Klimmer, with bacilli from fish (carp), has succeeded in immunizing rabbits and cattle. By his method, subcutaneous or intravenous, there are left no lesions, no general accidents. The method is practical, and gives immunity lasting a year and a half.

* * *

Curative Vaccination.—Based upon serotherapy, or upon the use of bacilli of any origin, very virulent or attenuated, it has given only illusive results. It is not the same, however, by the use of the soluble products secreted by the bacillus of Koch. Heymans has obtained the recovery of tuberculous cattle by placing in the peritoneum or in the subcutaneous connective tissue, back of the shoulders, cultures of the bacillus of Koch in collodion sac. At the Congress of Tuberculosis of Paris lately Prof. Behring made known his communication on the curative vaccination of tuberculosis by his new TC, which so far has given the best results in laboratory tests. Behring hopes to apply his method to man. Let us wait.

* * *

After all, how do we stand? Preventive inoculation has not said its last word. It has, indeed, given excellent results in the hands of many experimenters. Its practical use is already accepted in many places. Arloing is still working at his method, which will no doubt prove successful ultimately. Ligniéres may improve his process, and - - - well, we have not yet heard from Prof. Vallée, who, with Dr. Roux, is carrying out a series of experiments with a serum from horses: an equine

serum against a bovine disease. Let us see what the learned Professor of Alfort said at the Société de Médecine Vétérinaire Pratique at one of its late meetings: "The possibility of vaccinating horses against tuberculosis has not been mentioned until now. On this account it seems to me interesting to make known some attempts which I have been making for the past few months. If anti-tuberculous vaccination of horses has no practical interest, since this animal contracts that disease so seldom, it is very important to lay down the experimental rules of a deep immunization of this species of animal, which would suggest this subject as a choice for the production of serums in general, a serum possessing interesting specific qualities. The various anti-tuberculous serums prepared to this day have an action on the tuberculous organism, more or less marked, but in all cases insufficient. These sera are obtained by the treatment of subjects destined to their production, with soluble products, extracted from cultures of the bacillus of Koch or from the bacilli themselves, after a special treatment. As far as I know, there exist *no horses hyper-vaccinated with the plainly virulent tuberculous bacilli.* I have succeeded in obtaining in three horses satisfactory results in this direction. These subjects were treated successively with increasing doses of human bacilli, first attenuated, then with bacilli in full virulency, killing guinea-pigs, in six or seven weeks, and giving rise in horses, in five milligram doses, to tuberculous lesions with lasting reaction by tuberculin.

* * *

"The following is the condition of one of those subjects: Percheron mare, in excellent condition of health. Does not react to tuberculin:

Days of Experiment.	Inoculation.	Weight of Animal.
"1st . .	6 millig. bacilli, attenuated culture of equine bacilli	515 Kil.
"49th . .10	" " " human tubercul.	528 "
"95th . 15	" " virulent " "	531 "
"133d . 25	" " " " "	540 "
"187th . 20	centigrams " " "	543 "
"220th . 50	" " " "	544 "
"260th . 75	" " " "	547 "

"The increase in weight of the animals, their general good condition, are proofs of their perfect resistance. Each virulent inoculation is followed, at the beginning, with quite strong febrile reactions, which last forty-eight hours. As the treatment goes on, these reactions diminish. No matter at what time the animals are tuberculined, the well-marked reactions of the beginning of the immunizing treatment entirely stop later on, whether the operation is performed in the fifteen days following the virulent inoculation or several weeks later."

It remains to be established what the specific qualities are of serum of horses thus treated, and if the horse is not more apt to furnish an antituberculous serum more than the hyper-vaccinated bovine.

* * *

PROF. LANZILLOTTI-BUONSANTI'S SILVER ANNIVERSARY. —In one of the late numbers of the *Clinica Veterinaria*, printed as a special issue, there was an account of the ceremony which took place at the Royal Veterinary School of Milan to celebrate the twenty-fifth anniversary of the nomination of Prof. Lanzillotti-Buonsanti as Director of the School. In the presence of officials representing the Secretaries of the Interior, of Agriculture, of Public Instruction, and before the delegates of the veterinary schools of Italy, with representatives of various public authorities, and a very large number of visitors, Prof. Sertoli, in a long speech, reviewed the professional life and work of the Professor, and presented him with an artistic certificate handsomely illustrated in memory of the ceremony. Prof. Korner, in the name of the Secretary of Agriculture, gave Prof. Lanzillotti a magnificent gold medal, and announced that by the kindness of the King the Professor was raised to the degree of Knight of the Order of Saints Marvine and Lazare.

A subscription had been opened by the members of the profession to create an institution to be known as the Lanzillotti Institute. But, according to the desire expressed by the learned Director, the amount collected will be used to grant prizes to young veterinarians so as to encourage them in the study of in-

fectious diseases of animals. The *Clinica Veterinaria* of February 3 contained an excellent likeness of the Professor.

* * *

POISONING OF HORSES BY "SNOW DROP."—In glancing over the February issue of the *Agricultural Journal of the Cape of Good Hope* my attention was called to an article from Acting Director of Agriculture, Dr. Hutcheon, M. R. C. V. S., on the poisoning of horses by *Œnithogalum Thyrsoides*, or "Chinker inchee." Although the article is well illustrated by a colored plate of the plant, my botanical knowledge did not permit me to locate it, and on researching I found this definition of the "snow drop," as it is also called. "Snow drop" or "silver bill" tree, an American shrub or small tree (*Halesia tetraptera*), with white bell-shaped flowers in clusters. From this I concluded that the accidents referred to by Dr. Hutcheon might be observed in America—hence this short notice. It seems that various numbers of horses at different places in the colony had died after partaking of forage where flower-heads of "snow drop" were. The symptoms had been those of acute gastro-enteritis, accompanied by a dull, depressed, stupid effect on the mucous system.

Experiments were carried out by the Department of Agriculture to see the effects produced by the eating of forage containing the plant, some animals being fed by the dry flowers and others with freshly-gathered leaves of the tree. In the majority of cases the post-mortem lesions were about similar, viz.: "heart and spleen normal; slight congestion of the lungs, kidneys and liver. There are areas of fatty degeneration of the liver. There is intense inflammation of the gastric mucous membrane and that of the intestines throughout its extent." In the report one man is said to have lost two horses by this plant, another three, and a third lost five out of fourteen cases, etc. These facts have given rise to much inquiry and created considerable excitement. Purgative treatment is recommended as the one which is indicated to clear the intestines of its irritating contents.

NATIONAL VETERINARY CONGRESS OF FRANCE.—By the time this reaches our friends in America the Vth. Congrés National Veterinaire [yes, another!] of the Veterinary Societies of France will be in session. This Congress will be known hereafter as the *Nocard Congress*, because taking advantage of the presence of veterinarians from all over France, the monument to Nocard will be unveiled, a professional ceremony where I think all subscribers should have been officially invited and asked to represent in an official capacity. It might not have been convenient for the many who subscribed in America to come over, but I am sure some one will come to Europe about that time, and he might be a delegate from all. But, of course, this is only my personal idea of how to show the appreciation of the handsome gift sent from America to the illustrious master that Nocard was.

But let me come back to the Vth French National Veterinary Congress. I do not know exactly the questions which will be brought before the meeting, and, after all, perhaps there will be none which would, strictly speaking, be of interest to American veterinarians. And, yet, there will be one which I think cannot be ignored at this time, when in the States the question of "Reforms in Veterinary Education" is still, I hope, the subject of important investigation. I will give in brief the *résumé* of the report made by the chairman of the Committee, and my next will contain the resolutions adopted.

* * *

The first demand made by the chairman is the abolition of the internal for the students. In the French schools veterinary students are boarding students. External is the rule in all the establishments of higher education, except military schools. Why should it be different in veterinary colleges?

A higher degree of education than the one required should be demanded of the candidate at matriculation. Not only is the present degree of bachelor of classic or modern school obligatory, but a diploma of superior studies in a faculty of sciences, viz., the P. C. N., which means Physics, Chemistry, and Natu-

ral History, is demanded. This obligation would justify the claim to Doctorship, which could be but a proper recognition of the scientific standing of the veterinarian who would have it. A. V. D. (Veterinary Doctor) imposes itself.

The third question treated by the chairman is a serious and delicate one. It touches the situation and recruiting of the teaching bodies of schools and of the program of the curriculum. In relation to the recruiting of the teaching board, it is necessary "to create grades of assistants, repetitors, demonstrators, adjunct and titular professors, a regular hierarchy with a firm base and sufficient remuneration to attract and hold men of scientific value, specialized, giving their exclusive time to their duties. The suppression of one or perhaps two schools might be advantageous."

The faculties should elect their dean, who would be the director of the school, and the position should be held only for ten years—a *decanal*—subject to a reëlection, of course.

* * *

Free students we have. Higher degree of education is a stone hard to move in some of the States. A Doctor degree we have in all its various forms. Proper recruiting of our teaching bodies, by graded adaptation and graded education of candidates, is unknown to our schools. The idea of reducing the number of schools for the benefit and improvement of one is a question impossible of consideration. Limit of office for the dean or director of a school is scarcely admissible with us, where so many of our schools are private undertakings. And, yet, with the many objections which can be brought forward by our American *confrères*, the demands made by the chairman of the committee can certainly be a source of thinking for the members of the committee of the A. V. M. A., to whom this question of "reform" has been given for consideration. More on this subject later.

* * *

Our Apologies to the Washington State College.—In my January (1906) "Chronicles," in introducing a letter I

had received from the fair librarian of the Washington State College, at Pullman, asking to exchange a large list of "back numbers" for others which she did not possess, I remarked that it was "very strange that this party should not have seen fit to notify the REVIEW of its error in sending duplicates for such a length of time, without probably having paid for them." In making this statement I was woefully wrong in my hasty conclusion, which was arrived at without any data whatever from the business office. By a letter I have received from Prof. S. B. Nelson, he explains that some complete volumes and others nearly complete were given to the institution, and many other duplicates were purchased, along with other works, from a Chicago bookseller; and at no time have duplicates been received from the publication office. It is seldom that I am led into the making of a statement for which I do not have some data to guide me, but whenever I am wrong I grasp the first opportunity to set myself right. To the Washington State College, and its librarian, I offer sincere apologies, and trust they will consider that the wrong done them was by the head, not the heart.

* * *

BIBLIOGRAPHY.—In closing this, I have to acknowledge the receipt of several bulletins, such as those of the San Francisco and Chicago veterinary colleges, the *Archiva Veterinaria*, of Bucharest, and the first number of the *Journal of Tropical Veterinary Science*. This latter journal was fully considered in the April REVIEW, and I simply here address the editors my best wishes. A. L.

THE ASSOCIATION OF FACULTIES AND EXAMINING BOARDS.

At the 1905 meeting of the American Veterinary Medical Association, during a delightful sail on Lake Erie, thoughtfully tendered by the veterinary hosts of Cleveland, the Association of Veterinary Faculties and Examining Boards of North

America was reorganized, after a lengthy discussion of its character and purposes. In this discussion it was shown that little could be done to compel schools to adopt uniform standards of requirements for entrance or graduation, or for length of term or character of curriculum, and that any approach toward a more uniform standard than now exists can only be secured by mutual agreement. It was, therefore, considered feasible to have as components of this organization representatives of the various schools, of the examining boards, and of the American Veterinary Medical Association, from whom a working committee of three from each interest can be secured. This Association is to meet annually during the session of the National body, and the feeling seemed general upon adjournment that some good could be accomplished in the matter of establishing a minimum requirement among all schools represented in the composite organization.

One element of power to enforce the standard agreed upon is the right of the examining boards to fix upon uniformity in the examinations for license. Many States of the Union have laws requiring the examination of candidates seeking to practice within their confines, and those having secured laws without this provision can, we believe, with comparatively little effort, effect similar legislation. There are now but few States in which veterinary medicine flourishes to any extent which do not legally recognize the profession, and every year witnesses the decrease of their number.

The greatest power for equalizing the quality of veterinary education in this country, therefore, is vested in the examining boards, and if this strength is exerted wisely, there should be a general betterment of conditions throughout the land.

We fully realize that many obstacles are to be overcome before the organization becomes effective; but if the membership will take up the infant effort inaugurated last year at the approaching Hartford meeting with earnestness and a desire to accomplish something, we have much faith in their ability to do so.

AMERICAN VETERINARY MEDICAL ASSOCIATION.

The meeting at New Haven is drawing near, and Secretary Repp announces elsewhere in this number the program of papers secured to date. While their quality assures a high-class meeting, the number is inadequate for so important an occasion, and those who usually delay sending in their names until just before the list closes should take into account the injury and the anxiety which they occasion, and should at once notify the Secretary of their intention and subject. The outline of the arrangements for the holding of the sessions and the entertainment of the large number expected are well advanced, while the clinic details are in the hands of a strong committee.

The Massachusetts Association has named a committee of three of her best sons—W. L. La Baw, L. H. Howard, and J. F. Winchester—to act in conjunction with the Connecticut veterinarians in working for the success of the convention of 1906.

"VETERINARY NOTES OF THE RUSSIAN ARMY IN THE FAR EAST," by Col. John Van R. Hoff, United States Army, who was with the Army of the Czar in Manchuria for observation on behalf of our Government, will be published in the "Army Veterinary Department" of the July REVIEW. The author has gathered some data of great value to the veterinary profession concerning the diseases of the animals in charge of the military veterinarians, both those employed in the campaign and those used for food, together with their treatment and mortality. Particularly does his interesting account bring forward in most favorable light the great service of sera in the prevention of epizoötics of the most fatal infectious diseases, and shows their almost indispensable value where large bodies of animals are congregated. The profession will, we are sure, feel deeply grateful to the Colonel for the pains he has taken in collecting these facts and for his kindness in permitting the REVIEW to publish them.

ORIGINAL ARTICLES.

THE ETHICS OF VETERINARY DENTISTRY.

By W. L. Williams, Professor of Surgery, New York State Veterinary College.

An Address delivered before the Pennsylvania State Veterinary Medical Association, at Philadelphia, March 7, 1906.

During the past few decades there has developed in America a conspicuous tendency to interfere with the teeth of horses and an attempt has been made to dignify the practice by the appellation of "Veterinary Dentistry."

The unique position attained by this alleged profession or professional branch of veterinary surgery is attested in a variety of ways.

1. More has been written upon this subject in America than in all other countries combined, we having two pretentious volumes under the title of veterinary dentistry, besides much current literature.

In other countries there is found much valuable literature in veterinary periodicals; Clark has contributed a valuable volume in his "Horses Teeth," and recently Ostertag has furnished the profession with a most scholarly and valuable work upon this subject in his section on diseases of the teeth in Bayer and Fröhner's "System of Surgery and Obstetrics," but so far as we are aware, no pretentious volume upon veterinary dentistry alone exists outside of America.

2. American veterinary colleges largely have, attached to their faculties, a professor of veterinary dentistry and presumably give a special course in that subject. Great stress is laid upon this feature in the announcements of some of the shorter course veterinary colleges with low matriculation requirements, becoming less conspicuous among the longer course institutions with more rigid requirements for entrance.

3. A perusal of the catalogues of the manufacturers of veterinary instruments show a special emphasis upon dental appa-

ratus by American firms as compared with foreign houses. The instruments are excessive in number, complexity, cost and restrictions by patents.

4. Graduates of American veterinary colleges largely advertise themselves as specialists in dental work and actively solicit it. Many of them conspicuously display elaborate and showy diplomas in veterinary dentistry, and in all their advertising matter, bill heads, letter heads, and professional (?) cards draw attention to their special preparation for this work. In many cases, familiar to us all, the stationery bears a picture of the veterinary dentist himself, heroic in size and pose, filing the teeth of a horse.

5. American horse owners, trainers, coachmen and stablemen have been firmly led to believe that a very large proportion of the diseases and vices of horses are referable to defective teeth and the veterinary dentist is sought as a universal panacea.

Under these conditions it is not strange for us to believe that more work is done upon the teeth of American horses by legal veterinary practitioners than upon the teeth of all other horses in the world combined.

Let us here assert, lest we be misunderstood, our high appreciation of the economic and humane value of scientific veterinary dentistry. During our 27 years as practitioner or as teacher of clinical surgery, no class of work has demanded of us a higher degree of skill, none has yielded more satisfactory results.

For the purposes of this address we wish our title, ethics, to signify the conscientious performance of our duty, according to all available knowledge, toward our patient, our client, and, so far as its interests may be concerned, the public. It is not enough that ethics should demand of us a conscientious application of the knowledge in our possession, that would place a premium upon ignorance, but calls for an honest use of all knowledge which, by proper diligence, we may be able to acquire. It does not stop at what our writers on veterinary dentistry may teach, as these writings may be wanting in authority; it does not cease at what is taught us in college, the

faculty may not have possessed a true veterinary dentist; it does not terminate with graduation from a special course in veterinary dentistry under a noted professor of this subject and the receipt therefrom of a diploma in dentistry, the professor may have been wanting in scientific attainments, or possessed a very feeble, undeveloped conscience; it must rest finally and permanently upon a conscientious search for the truth with the animal itself as a basis, taking into account all anatomical, physiological and clinical data. This renders our ethics somewhat elastic, since it recognizes that one may be able to see and learn more than another and consequently has a duty which leads him further than his colleague, whose field of vision is more confined.

Veterinary dentistry, or the processes known by that name, is almost wholly confined to the horse, partly because he suffers more frequently and seriously from dental diseases than other domestic animals; very largely for the reason that he submits tamely, without material restraint, to prolonged and important dental interference; and, perhaps above all else, he is held in highest esteem by his owner, who, under false ideas of the facts, permits unwarranted liberties with these essential organs under the delusion that such interference is for the well being of the horse. The horse is practically the only animal in which dental operations are extensively carried out upon sound teeth. It has been stated that women sometimes have the visible teeth of pet dogs filled with gold in order to make them conspicuous, and the breeder removes the tusks of the boar to prevent him from injuring other live-stock. Aside from these, sound teeth of animals go practically untouched.

All the teeth of the horse are subject to deformity, disease and injury, and all at times require surgical handling.

The incisors are the most freely open to inspection, were probably the first teeth of the horse to be subjected to surgical handling, and continue to be interfered with in a greater variety of ways than any others. They are really less subject to disease than either the canines or grinders, but their position

renders them very liable to accidental injury. They are also frequently deformed or are abnormal in number. They constitute our most valued criterion in determining the age of horses, and have long been subjected to disguising operations in horses offered for sale or trade. The temporary incisors are prematurely removed from colts in order to hasten the eruption of the permanent ones and cause the horse to sell for a higher price because of the appearance of greater maturity. Fortunately for our profession, this operation is carried out almost wholly by the dealer, it being very simple and easily done by any one. The perniciousness of this fraudulent operation cannot well be denied. It places an immature animal in work for which it is not ready, leading to premature breaking down, the loss to the community of what would have been a valuable animal had it been humanely handled, and deceives the purchaser into paying an adult price for a colt, causing him an important monetary loss.

An older and more grossly deceptive operation for the disguising of the age of horses is the process of bishoping, in order to make the animal appear younger. The operation has been left largely throughout all history to the low, disreputable horse dealer, but at times the veterinarian has done the work for the dealer. In modern veterinary literature, when mentioned at all, it is usually merely done to condemn it and place the veterinarian on his guard when examining horses for soundness. More recently, Merillat has included it in his "Animal Dentistry" under the title of "Artificial Anomalies," and gives all the details for performing the operation in the most deceptive manner. He does not commend it beyond giving it so prominent a place in a volume presumably dedicated to scientific dentistry, but there is a want of that vigorous condemnation which seems to us demanded. Bishoping does no good and very scant harm to the teeth and causes the animal no pain. The important question is the deception of the buyer. We know of no tenable ground upon which a veterinarian can justify his performing this operation, and cannot see how he can escape the self-conviction that when he

bishops the mouth of a horse he has attempted a fraud against a prospective purchaser. Should the buyer call upon the operator for an opinion as to the age of the animal, if he has not previously surrendered all claim to ethical principles, he will have placed himself in an embarrassing position, if, after having received a fee from the seller for doing an operation in order to enable him to deceive the buyer, he now turns upon his dishonest client of yesterday and discloses the fraud to his later employer. But Merillat claims that the skilful veterinarian can so bishop the mouth of a horse as to deceive himself, and thereby be placed in helpless subserviency to his own fraudulent operation for which he has accepted a professional (?) fee. If he detects his own fraud and exposes it to the buyer, he offends the seller from whom he has already received a fee; if he keeps the secret and accepts another fee from the buyer he doubles the fraud and his fees for committing it. In attempting to condone such operations some veterinarians resort to the plea of inevitability, that the fraud will be perpetrated by some one and so should be done artistically (not scientifically, for science is truth), and the veterinary practitioner had best do the work, and accept the fee. Such an attitude strikes at the foundation of all professional ethics and marks the boundary between science and charlatanry.

In 1889, during a particularly unsteady epoch in the dentistry of animals in this country, Hinebauch made an unsuccessful attempt to dignify as scientific, and give a permanent place in animal dentistry, the filling of horses' teeth. The chapter was written by "veterinary dentist" Sayre and included by Hinebauch in his "Veterinary Dentistry." Fortunately, it failed to meet with any notable response and no one took the trouble to point out its absurdity. As described by Sayre, the work was limited to healthy teeth, where it admittedly could not be effectively applied. It was a comparatively harmless piece of nonsense, for which only a few horse owners, with more money than intelligence, paid fees to the few "veterinary dentists" who did such work. We do not wish to be understood

as absolutely condemning the filling of the teeth of horses or other animals. There may be cases where it is proper and practicable, but we cannot approve the filling of normal infundibuli in the incisors of young horses, nor attempting the absurdity of filling defective cement or dentine areas in the crowns of grinders where the trouble is not recognized or recognizable until the tooth is irretrievably lost. Sayre admits that in the first molar, where this condition is most frequent, the filling is impossible.

Hinebauch attempted, with more success, to dignify another questionable operation upon the incisor teeth, that of resection in order to allow the grinders to come together. He says: "They (the incisors) occasionally need to be shortened more or less, especially if the horse is not allowed to run at pasture, and is fed on hard food, such as whole corn and oats. The molars do not come together near enough to thoroughly grind the food." Merillat condemns this heresy in commendably vigorous language and points out the fact that the shortening of these teeth prevents their apposition, interferes as a consequence with food prehension, and the operation, unless very carefully done, is liable to cause serious fracture of the crowns. It is well known that the teeth of horses are pushed out of their alveoli in inverse proportion to the resistance encountered and that their degree of use influences their rate and extent of protrusion only in so far as attrition shortens them. If two functioning teeth of a horse oppose each other they are each pushed out of their alveoli until they come in contact and thereafter they advance at precisely the rate that their crowns are worn away by attrition or otherwise removed. If one of these teeth is missing its antagonist is pushed out until it may reach and wound the vacant alveolus. Reversing this hypothesis of too long incisors, it could as well be claimed that horses living a comparatively wild life on ranges where the soil is very sandy and stony and the herbage very scant and short, would have their incisors worn so short that they could not come together and the prehension of food would thereby be interfered with or prevented. The reasoning is parallel. The operation is largely

carried out upon aged horses with teeth so worn out that they can no longer effectively grind food whether the incisors be long or short, present or absent. We have seen no clinical evidence of good arising from the resection of the incisors. In some instances such a result might be claimed where other teeth, which were actually interfering with mastication had proper care at the same time or other unfavorable conditions were removed, after which the animal improved in condition. The incisor arcades are far narrower than those of the grinders, and in the process of mastication, if they projected so far as to come in contact would be worn away more rapidly than the grinders. Since the process of mastication in the horse is accomplished largely through lateral motion of mandible, the fixed point being the temporo-maxillary articulation, the incisors move over a greater distance than the grinders and undergo a corresponding greater wear. It should be further remembered that if the incisors and grinders come in like contact during mastication, the presence of food between the grinders would conserve their wear while the incisors without food between them, their intensely hard, milled surface coming together, would cause them to wear away rapidly and bring about a properly adjusted contact. Horses, like men, can adjust the dental contact so that in the normal state, the incisors can be brought in contact while the grinders are held apart and *vice versa*, but such an adjustment could have no permanent influence upon the extension of the teeth. We can find no reason, from any possible view point, for concluding that normal incisors grow to an injurious length and interfere with mastication in animals not allowed to graze. We have not been able to see any appreciable difference in the length of the incisor teeth of grazed and stabled horses. Furthermore, there is a strong tendency in teeth to diminish in power of resistance as their use decreases, which again may serve to aid in maintaining the balance between the various arcades.

The incisors are further interfered with in cases of cribbing, the veterinarian being, at times, asked to saw down between the teeth with the hope of curing the vice, making it possible

for food to become impacted between them and cause disease. In other cases the veterinarian is asked to extract or break off some of the incisors for the same purpose. No evidence exists, within our knowledge, that the condition of the teeth has the remotest relation to the cause of cribbing nor that any known method of changing these teeth can beneficially influence the habit. We have experimentally completely destroyed the sensory nerve supply to all the incisors in both arcades without exerting any influence whatever upon the vice beyond the tenderness of the wounds during the time of healing. We can consequently find no warrant for interfering with these teeth for the cure or amelioration of cribbing.

We meet frequently with deformities, diseases and injuries of the incisors in which surgical handling is so clearly ethical and mandatory as to call for no comment in our discussion.

The canine teeth of the horse virtually escape questionable operations although essentially functionless, so that meddling might be given vent on them rather than the incisors and grinders. They are the only teeth of the horse to suffer from caries comparable to that affection in man, being the only ones in which, under any probable conditions, dentine is exposed on other than a wearing surface; exposed dentine, not in wear, decays, dentine in wear does not decay. Such decay is at times induced by accident, or by error in cutting too deeply to blunt a sharp-pointed canine which has cut the tongue or lips.

The little supernumerary premolars or "wolf teeth" have claimed a very large share of dental charlatanism and being alike harmless and valueless have awakened little protest against the meddling from which they suffer. Considering their small size and inoffensiveness "wolf teeth" have had to endure more than their quota of defamation. The principal change against these rudimentary organs is that they cause periodic ophthalmia; a charge of too long standing to determine the date or cause of its origin. It has followed the horse to the very corners of the earth, even into climates where "moon blindness" is unknown. Hinebauch says: "Ophthalmia, both periodic and simple, may re-

sult from teething. "The removal of supernumerary teeth acts as a counter-irritant and may possibly be followed by a remission of some of the ophthalmic symptoms." He approves of their removal.

Merillat concedes alike their uselessness and harmlessness, except that in rare cases they may possibly interfere with bitting, for which reason he countenances their removal. In ophthalmic diseases he strongly urges their extraction "owing to the popular prejudice against them."

It seems to us that we are unwarranted in advising an operation for the removal of an organ because under certain conditions it may interfere with the comfort of an animal unless the possibility cannot be predetermined or the operation cannot well be performed after it has caused some annoyance.

In these teeth it seems to us that an intelligent veterinarian could determine in each case if a wolf tooth would or would not interfere with the bitting process and its removal be advisable. The size, form and direction should show the practitioner whether it can ever cause an abrasion of the cheek from bit pressure. Little harm can come from leaving wolf teeth till they actually interfere with bitting and then removing them. Does "popular prejudice" render a painful and useless operation ethical? The veterinary practitioner is a public teacher, he is licensed as such in many of our States, in some commonwealths he is educated at public expense and has an ethical duty to the people of special significance. He is the licensed guardian of the live-stock interests and the adviser and teacher of the horse owner. The veterinarian goes to the legislature asking for practice laws, that the practice of veterinary surgery shall be limited to *scientific* men like himself, and having attained these laws we are urged by him to perform a useless operation in obedience to "popular prejudice," to perpetuate an ancient superstition and carry out the dictates of bygone centuries. Any man who has extracted wolf teeth knows full well that it is a painful operation, as shown by the resistance of the animal, not only causing transient suffering, but rendering timid

animals afraid of manipulations about the mouth thereafter.

The grinders are subject to many forms of disease and defect and offer the most important field for beneficent dentistry. The affections are largely very serious in character, causing great suffering to the animal, inducing emaciation and weakness from partial starvation and frequently jeopardizing the life of the animal. These demand a high order of surgical skill and do not involve, in the ordinary way, questions of ethics. The great mass of dental work unassociated with dental disease is performed upon the grinders of the horse. The superior maxilla being much narrower from side to side than the inferior maxilla, the grinding surface of the two arcades meet on an inclined plane, the superior teeth being longer on the lateral side while the lower ones are longer on their median aspect. This bevelled wear emphasizes the plicæ into which the tooth tissues are thrown and results in sharp dentate projections, consisting chiefly of enamel, on the outer border of the superior, and the inner of the inferior arcades. These prolongations serve a highly essential function in grasping and dividing the food masses into smaller portions and giving the teeth a firm hold upon the food while their milled surfaces effectively crush and grind it. The influence of these sharp and bevelled tooth edges upon the well-being of the animal is variously interpreted, there being a widespread conviction among many stock owners and veterinarians that the grinders were badly made, have become obsolete in form and require great modifications at the hands of the veterinary dentist to make them fit to fulfill modern requirements. Much theorizing has been done regarding the influence of domestication upon the teeth of the horse; we hear little of such influence upon the teeth of other domestic animals. One of these theories is suggested by Merillat who says: "The use of the bit through innumerable generations appears to have rid the interdental space of the premolars" (wolf teeth). As neither history nor tradition reaches back to the period when *equus caballus* had not been domesticated and bitted by man it is difficult to determine what effect the bit has exerted upon his

teeth. One certainty which is largely overlooked by theorists is the fact that supernumerary teeth increase in frequency and size as the intensity of domestication. The more highly bred and fed, and correspondingly the more promptly and constantly bitted, the more constant and larger the wolf teeth. The more vigorous, the larger the horse, the more likely he is to develop supernumerary molars of the same size as the normal ones, which may be placed in front, behind, or at either side of the normal dental arcade. Clinically, therefore, instead of tending to obliterate teeth, domestication does the opposite.

Similarly it is urged that alleged changes of food in domestication has produced important changes in his grinders, especially that the horse now eats largely unground grains. Grains, like horses, have been used by man as far back as history or tradition leads us, and it is fair to assume that the eating of grain by the horse is not a recently acquired habit; it is highly probable that in prehistoric times man did not grind the food for him and that the grains were as hard ten thousand years ago as they are now. Based upon these alleged changes from the natural state, the sharp edges of the grinders are charged with being the cause of many of the ills of the horse, to overcome which, extensive changes are made by the veterinary dentist. Sharp grinders are variously alleged to cause ophthalmia, debility, inappetence, bolting of food, slabbering, shaking of the head, side pulling, lugging on the bit, shying, indigestion, constipation, diarrhœa, running away, standing still, (balking) and numerous other ills.

Since all grinders of the horse are very sharp and armed with pointed denticles of enamel at their prominent edges, it is well to enquire how we may fix the line of delimitation between the normally and abnormally sharp tooth; or if the normal form of the teeth is incorrect, is one of nature's gross blunders, in what manner and degree it is essential to modify them? Upon what basis are we warranted in changing their form? Let us critically examine the clinical evidence of the alleged injuries from sharp grinders. We may divide them

into two categories: interferences with mastication and through this with digestion and nutrition; and disturbances in driving or riding due to painful injuries of the soft parts in the presence of the bit. Mastication may be interrupted by either mechanical or pathologic impediments.

It is alleged that in some cases, without disease, the mandible is so much narrower than the maxilla as to produce a scissor mouth of such an extreme degree that mastication is well nigh impossible.

These cases must be very, very rare, certainly the vast majority of scissor mouths are the result of painful disease of a tooth or teeth and depend upon, instead of causing, bad mastication. In such case it is clear that the alleviation of the cause commands our first attention and only secondarily do we need overcome the shear mouth to restore proper mastication. If the offending tooth is timely removed no shear mouth results. In the extremely rare cases said to occur as an anomaly without disease, it is difficult to see how the shortening of the wedge-shaped teeth can greatly relieve the condition as the inferior maxilla will still be too narrow and good mastication impossible.

If one tooth is lost or worn completely away the antagonist tends to push out till it reaches and abrades the soft tissues in the vacant alveolus. The posterior tooth in either the mandibular or maxillary arcade may be placed somewhat posterior to its antagonist and a portion grow out so long as to penetrate and wound the soft parts opposite; the same condition usually ensues in case of supernumerary molars, which being located frequently behind the normal teeth have no antagonist. So in cases of diseased, misdirected or split teeth and partially detached temporary crowns we meet with serious impediments to mastication.

But all these constitute a very small part of the popular veterinary dentistry, most of it is directed to the removal of the sharp points on the outside of the superior and the inner side of the inferior arcades of otherwise sound and normal teeth. The mere sharpness of these edges are a distinct aid in mastication and are always sharp in a normal mouth, the more normal the

tooth, the sharper. They cannot obstruct the lateral masticatory movements of the jaws because that movement in itself prevents their attaining such proportions. If mastication is interrupted because of wounds to the soft parts from the sharp edges these injuries are readily found. In this case the wound needs be of a character clearly sufficient to establish a case. There are probably few toothed animals which do not occasionally abrade the cheek as a result of accident or inattention during mastication and if we will carefully search the cheeks of horses, many of them will reveal some slight trace of old or recent abrasion.

Does the mere trace of an abrasion of the cheek or tongue warrant surgical interference with the teeth? If we answer in the affirmative we shall need to rasp the teeth of well-nigh every horse and, were the mouths of dogs, cats, pigs, cattle, sheep and goats examined, we should probably find similar conditions in them; it is certainly true of man. There is little reason to believe, either, that blunting the teeth of horses will stop or even lessen the frequency of these accidental abrasions. In order to warrant the inference that a given abrasion constitutes a sufficient cause for surgical interference with the teeth, we need clearly establish the fact that the injury is recent, that it is sufficient to cause pain as verified by sensitiveness to the touch, that the condition of the tooth or teeth which caused the injury is such as to show that the abrasion was not a single accident of no consequence but that it will necessarily be constantly or frequently repeated during the process of mastication. We are then warranted in so modifying the offending tooth or teeth as to avoid the recurrence of the injury, but this gives us no right to meddle with the other teeth which have caused no injury. If we apply this rule in our daily work, we shall cut or rasp few teeth and wear out very few rasps.

In considering the influence of sharp teeth upon bitting we should weigh the evidence carefully. If an animal shies, slabbers, side-pulls, lugs on the bit or runs away it is not proof that his teeth require surgical attention.

Dribbling of saliva may arise from a great variety of causes, among the least frequent of which is sharp teeth, the most common and inexcusable being improper bitting and reining. In many cases of slabbering the cause is to be found in the lodgment of grain beards or other foreign bodies in the mouth, in stomatitis from any cause, in foods like white clover which cause intense ptyalism, etc. These cannot be cured by cutting or rasping the teeth. Lugging, side-pulling and other related vices are rarely due to the condition of the teeth, but, on the other hand, the existence of these tend to cause injury to the surrounding soft parts through their being violently pressed against them. The vicious habit must be overcome before it is worth while to blunt the teeth; after the habit has been corrected the teeth do not need attention. In turf horses, especially in colts, where they are compelled to bear heavily upon the bit, the cheeks may be pressed violently against the edges of the first and, possibly, second superior premolars in a manner to abrade the parts and call for the artificial dulling of normal teeth in order to accommodate the parts to special artificial conditions; these changes should be confined logically, to the first, or first and second superior premolars, and the others left unharmed. In contrast with this view of our professional duty, we find that in many large establishments, the veterinarian recommends the dulling of the grinders in well-nigh all the animals, operates upon them and receives liberal fees therefor.

In speaking with a veterinarian who practices largely among running horses, he stated that he rasped the teeth of practically all horses belonging to his clients once or twice annually, and when the necessity for it was challenged, he confessed its uselessness, its injury to the teeth, the unethical character of the work, and condoned his course upon the basis that, did he refuse to do it, others would accept and he would suffer a corresponding monetary loss. We shorten the life of a tooth by at least the amount we remove, be that 1 per cent. or 10 per cent. If we cut away the projecting edges we remove chiefly enamel and at its thickest part, so that the wearing of the teeth is hastened

more than it would be by the removal of an equal amount of dental tissue from other parts. Of greater importance than the loss of the healthy tooth tissue is the modification of the form of the tooth and a decrease in its efficiency as a grinder.

A still more serious injury lies in the fact that the operation serves to distract attention from the real cause of disease and delays appropriate treatment. Ostertag remarks that many horses are treated by coachmen and blacksmiths for sharp teeth when suffering from some serious internal disorder needing immediate and skilful handling, but as a result of the meddling with the teeth, are not presented to a competent veterinarian at the appropriate time, resulting in increased suffering to the animal and unnecessary loss to the owner. Such cases are familiar to every practitioner, only in this country it is generally the veterinary graduate who performs the needless dental operation instead of the coachman or blacksmith.

A horse was presented at my clinic for side-pulling, with a request that his teeth be rasped. The teeth were normal and the case was diagnosed an unilateral cerebral disease which accounted for the tendency to veer constantly to one side, making it difficult, and at times impossible, for the coachman to keep the horse in the road.

Another veterinarian found abrasions of the cheeks on the side towards which the horse turned, the teeth were liberally rasped, the coachman discharged as incompetent, our professional skill denounced and a roseate prognosis given. A few days later, while some distance out of the city, the horse with the smoothed teeth took his mate, the coachman, carriage and ladies out of the road, over an embankment. The ladies walked home and the horse was sold; a sovereign remedy for sharp teeth which cause side-pulling. If still living, the time of that unfortunate animal is probably still largely occupied in side-pulling, changing owners and having his teeth rasped.

A valuable roadster was presented at our clinic because of great weakness which was attributed to sharp teeth; they had been rasped but supposedly not enough. Examination showed

the teeth so smooth from rasping as to interfere seriously with their grinding power, while valvular disease of the heart explained the weakness.

In another case presented for sharp teeth, the patient was found suffering from pneumonia, so that the examination of the teeth was delayed until recovery from the pulmonary affection had occurred. It was then found that the quidding of food and other symptoms referred to the teeth (which were normal) were caused by a fixation of the tongue due to an osteom occupying the median raphe. This fixation probably caused the pneumonia by interfering with deglutition, leading to the inhalation of food particles. The removal of the osteom alleviated the trouble and restored the patient to usefulness.

One of the most harmful phases of the indiscriminate dulling of the grinders, is the overlooking of really serious dental disorders, while deluding the owner with the popular remedy and preventing him from seeking competent advice. If a horse shows good evidence of dental affection, no pains are taken by the typical veterinary dentist to discover and combat the real difficulty, but the rasp or forceps is brought into requisition, and after a considerable amount of harm has been done by removing a part of their substance and an unjust fee has been collected for doing an animal an irremedial injury, the patient is left to continue to suffer from a painful and dangerous dental affection. This is well illustrated by a case recently occurring in our clinic, a horse being entered with the history that for some weeks previously the patient had shown sharp pain in drinking, quidded her food and exhibited other signs of interference with mastication. Two veterinary dentists had each rasped her teeth without result, and the animal was constantly losing in flesh and condition. Examination revealed a separation of the gums from the inner side of one of the inferior molars and a diagnosis of purulent inflammation of the dental pulp, with escape of the pus into the mouth alongside of the affected tooth was made, the tooth extracted and our diagnosis fully verified. Here two veterinarians' fees for doing damage had left the animal to suffer for

weeks from a very painful affection not devoid of danger to life, had prevented the owner from securing competent advice, and had robbed him of the use of an animal for a long period. It may be urged that these two veterinarians had not been efficiently taught in the diagnosis of such cases, that their professor of veterinary dentistry overlooked this one point, that their books on dentistry were clear on sharp teeth but cloudy on diseased, that their text-books on surgery were silent on this one point, that they overlooked it and that some or all of these facts should condone their failure. Professors and authors are not wholly responsible for the shortcomings of all practitioners; the load would be too heavy for so imperfect a body of men to bear. Because such practitioners are unable by their methods to properly diagnose such a case does not justify them in guessing that rasping the teeth and collecting a fee will meet all the requirements of ethics. We hold it was their duty to learn the facts and apply them. They should have known that sharp teeth alone do not cause pain when the animal is drinking, nor cause the quidding of food, and knowing these things should have searched for, and found, the only tell-tale fact discoverable upon examination, the separation of the gums from the side of the tooth and that this with the history, indicated unmistakably a purulent pulpitis and called for the prompt extraction of the hopelessly diseased organ.

If they did not learn it from professor or book they were in duty bound to take the lesson from the much greater teacher, clinical observation. We hold them in violation of ethics, not because they did not know how to correctly diagnose the case, but for the reason that they had not learned an available piece of information, which their professional calling makes obligatory upon them. Our definition of ethics neither stops nor hesitates at what one knows, but proceeds immediately to what he should know by diligent study of his profession in college and practice. In order to attain this ethical standard, the veterinarian must be an earnest and conscientious student from the beginning of his college career to the end of his service as a veterinary practitioner.

In the veterinary practice of to-day there is no feature more disgraceful than the wholesale rasping or cutting away of horses' teeth. Instrument makers vie with each other in devising a great variety of instruments, each one claiming the highest efficiency. Adjustable floats were introduced to increase the destruction of teeth at a diminished cost to the veterinary dentist and more recently there have been placed on the market power floats, efficient engines of destruction, by which great damage can be inflicted upon normal teeth at a minimum expenditure of time and labor. We do not condemn the instruments nor their proper use.

Ostertag well says: "It is the duty of the veterinarian, in districts where the sharp-tooth-mania is rampant, to discreetly expose its evil results by his teaching and thereby strive to counteract the tendency to diagnose 'sharp teeth' as a cause of deficient nutrition except when a careful search of the oral cavity demonstrates that a degree of sharpness of the teeth exists which possesses an actual clinical importance." "Sharp-tooth-mania" is a peculiarly happy word which forcibly expresses an evil apparently more widespread in America than in any other country. According to Ostertag the practice in Germany is chiefly confined to coachmen and blacksmiths while in this country it unfortunately pervades the veterinary profession to a regrettable and disgraceful degree. This "sharp-tooth-mania" is so deeply rooted in the minds of our horse owners and has been so industriously fostered by our alleged expert veterinary dentists that no early relief from its baleful influence is probable, but it seems to us that the time is opportune to begin a campaign against the evil among ourselves. Our writers on veterinary dentistry cannot be charged with directly advising or commending much of this work but there is a want of that vigorous condemnation so richly deserved. I do not expect you to all agree with me; it is not essential that any one of you should. We only hoped that we might say something which would cause serious, conscientious study, that some of you would ponder over these thoughts during your daily work as

teacher, practitioner or student and be led to take a higher and better stand in the ethics of veterinary dentistry. I ask no one to accept my views as his ethics; the conscientious performance of my duty in relation to the teeth of animals, according to the best I have been able to learn from men, books, and animals is ethical veterinary dentistry for me and a like application on your part is equally ethical for each of you. Neither have I selected this topic as an isolated one without relation to veterinary ethics as a whole, but simply as a concrete example of a great mass of ethical problems which affect our profession. Veterinary societies formulate ethical codes, forbidding certain forms of advertising, stating how consultations shall be conducted, condemning patent medicines and instruments; good enough in their way but impotent to elevate the members of the profession until first they attain to the foundation of professional ethics, the conscientious application of all available scientific knowledge to our daily work, first being just to our patients, second to our patrons and finally to our colleagues. We can define our proper relations to our colleagues and fix ethical codes for them but the more fundamental things are beyond written laws and depend upon an awakened conscience. With our present rapid advancement in veterinary education we should be able to discern a well-marked upbuilding of a higher type of veterinary ethics, of a nobler manhood among veterinarians.

A PASTOR'S SURGERY SAVED A HEN.—*Lower Albany, N. J.*—An industrious hen, which Pastor Anderson, of the Baptist church, prized highly, fell a victim to her appetite the other day and neglected her duty. The dominie discovered that she had not eaten wisely, but too well, for her craw resembled a small balloon. He resolved upon heroic measures, and, with a small, sharp knife, he essayed the role of surgeon. Making an incision in the neck of the hen he was surprised to discover a big bunch of grass, held together by a few yards of string. Removing the obstruction, sewing up the wound and applying necessary disinfectant made the operation highly successful. The hen is laying once more.—*(Phila. Record.)*

DIAGNOSIS AND TREATMENT OF VENTRAL HERNIAS IN BOVINES.*

RÉSUMÉ OF CLINICAL LECTURES.

By CH. BESNOIT, Professor of Bovine Pathology at the Veterinary School of Toulouse.

(*Continued from page 180, May Review.*)

Really speaking, all methods of treatment by compression of the sac, in cases of very large hernia, which are the rule in bovines, may prove useless and produce only a simple reduction in the size of the lesion; several reapplications are then necessary to reach a radical recovery. They have, besides, an objection—viz., to leave after the sloughing of the clamp or nippers a broad wound, whose cicatrization is always very slow.

From what we have seen, it is shown that none of the preceding methods can be recommended against chronic ventral hernias of bovines. If in a few rare cases of peculiarly small hernias they have given good results, those are exceptional facts, upon which a rule cannot be established. Dangerous sometimes, they often give only a simple improvement, and possible return is likely to follow their use, which necessitates new surgical interference.

At any rate, even in granting that they have a real curative value, their use could not be generalized in the presence of numerous contra-indications. I have already said that old ventral hernias of bovines occur most always through a wide abdominal tear and reach enormous size; in such conditions it would be temerity to hope to obtain the organization of a fibrous pad sufficiently thick and firm to resist the pressure of the abdominal organs. With the preceding methods one would certainly reach a sure failure or at least an incomplete result, followed by an early return of the trouble.

And, again, the preceding methods require, first, the reduction of the protruding organ, and consequently can be applied

*Translated by A. Liautard. Reprinted from the *Revue Vétérinaire*.

only against hernias without adhesions and without strangulation. When these complications exist, it becomes necessary, before another interference, to open the lesion to free the protruding organ from the adherences with the sac or excise the hernial sac. These first steps accomplished, it is then easier to finish the operation, which, without being more dangerous in bovines, is still more likely to succeed.

To resume, in *all cases* of old ventral hernia in cattle, small, of medium size, and even large—except in cases whose proportions are so small as to render any interference unnecessary—there is only one curative method deserving of trial, and that is the *operation for radical cure.*

OPERATION.

This method consists in suturing the hernial ring after opening of the sac. The expression, *radical cure*, as it is called, is, if applied singly, somewhat improper, as in reality it applies to all the means which have for object the final disappearance of the hernia.

Indications.—Let us insist on these. As we have seen, it is the only rational means of treatment with old hernias, a method by which, without great danger, a quick and complete recovery can be obtained. It is necessary in all cases where there are adhesions and strangulation; it is most useful, even less dangerous, and in many instances more efficacious than any other method, when those complications are absent. The large size of the lesion is not, properly speaking, a contra-indication, because, if it is too exaggerated, any other mode of treatment will certainly also be a failure.

With recent hernias, the radical operation is again the best mode of treatment. With it lasting recovery is nearly certain, while it is only problematical with the method by bandages. As I have already said, this last can be tried only to satisfy timid owners; but as soon as their insufficiency is evident, it is rational to resort to the *radical cure by suture of the hernial ring.*

Indication for this method seems to me *absolute* in all cases of ventral hernia in bovines. And, yet, commonly used in human surgery for nearly a quarter of a century, it is but little resorted to in veterinary. Especially in bovine practice, notwithstanding the good results obtained by some, it has been and is still considered by many practitioners as delicate and dangerous, to be resorted to only in exceptional cases.

For a long time classical works have discredited it, and the most recent recommend it only in some cases, and then even with caution. "Ventral hernia once established, is irremediable," wrote Bouley, "and it is best to let the animals live with their infirmity than to resort to risky operations, like those which have been recommended, such as the suture of the edges of the hernial ring. . . . A ventral hernia being present, compatible with the health of the animals and their producing usefulness, it is wiser, generally speaking, to let them live and work with their infirmity, than to attempt to cure them with means which may be dangerous to their lives." Peuch advises "to abstain from performing this operation when the hernia is old, large, and where the hernial ring is wide. In such cases," says he, "the animal can be used for months and even years for farm work, or he can be fattened. It would, therefore, be daring to resort to the operation for hernia in such cases."

These observations and these cautions, which represent still the state of mind of the great majority of practitioners, are based upon the supposed dangers of surgical interference with the peritoneum. But if those risks can be admitted for horses, where peritoneal infection is relatively easy, they are, on the contrary, strictly hypothetical for ruminants, where the peritoneum is resistant to all infection in a most surprising manner. It is sufficient, indeed, to recall the little severity and the purely local character of the peritoneal lesion following the accident of dropping of alimentary substances from the rumen into the peritoneal cavity during or after the operation of gastrotomy to appreciate how small the chances of generalized and fatal infection would be after laparotomy in a bovine. At any rate, the

results realized during the last twenty years in surgical antisepsy have been such that dangers of infection during laparotomy, considerably reduced for all species, do not, so to speak, exist for ruminants.

Another reason which prevents the spreading of the radical treatment for hernia in cattle is that owners generally prefer to sell their animals to the butcher rather than run the chances of a recovery, considered rather uncertain. Such decision is doubly prejudicial to their interests. First, they get rid of an animal which after recovery would have still rendered long service, and, again, they always sustain by this hasty sale a heavy financial loss. It is only in cases when, notwithstanding the accident, the animal should have kept a general good condition where such decision can be admissible; but these circumstances are exceptional, as in general ventral hernias soon acquire large dimensions and give rise to great loss of condition.

Finally, a last consideration pleads in favor of surgical interference for *all* cases of ventral hernia. It is the possibility that, during the operation or from complications following it and likely to compromise its success, it becomes necessary to slaughter the animal at once; then the benefit derived at that time will, in the majority of cases, be at least equal to that which would have been obtained before any interference.

Technic.—The object of the operation is to reëstablish the normal relations of the protruding organ and close the accidental opening of the abdominal walls through which their exit has taken place. It includes essentially the incision of the envelopes of the hernia, the reduction of the hernia, the suppression or reduction of the serous sac when one exists, suture of the hernial opening, and finally that of the wound of operation.

Preliminaries.—It may be advantageous to keep the animal fasting, and even purge it slightly, during a few days preceding the operation, unless it be urgent. However, these measures are not indispensable: the objects are to empty the intestines and facilitate the manipulations of reduction or the destruction of the adhesions while operating.

The animal is cast on the side opposite to the hernia and, according to the seat of the lesion, is fixed in right or left lateral position or in the dorsal; in some cases it is necessary to have the upper hind leg pulled backwards to expose the flank.

Anæsthesia is not absolutely indispensable; but in all cases is very useful. I always resort to it. It renders the steps of dissection and reduction easier in suppressing the violent struggles of the animal, which have a tendency to force the intestine outwards and in a few seconds destroy the results obtained after long work. A rectal injection of 100 grammes of chloral is given half an hour before the operation, and as soon as the animal lies down anæsthesia is completed by inhalations of chloroform; the animal is asleep in 10 or 15 minutes: these inhalations are carefully kept up during the entire operation. I have often resorted to the mixed method of Dastre and Morat, which consists in the injection half an hour before the inhalations of chloroform, of a solution of 10 or 15 centigrammes of chlorohydrate of morphine and 5 milligrammes of sulphate of atropia in 10 grammes of distilled water. Medullary injections of cocaine have never given me any good results: the loss of sensation is too limited.

The field of operation, hands, instruments, and objects for dressings are carefully aseptized. The surface of the hernia is shaved, soaped and washed successively with water, alcohol and an antiseptic solution, to be afterwards covered with a broad aseptic and fenestrated cloth. The instruments have been boiled in water with a small quantity of carbonate or borate of soda. The hands are well cleaned with soap and washed with water and sublimated solution.

First Step—Incision.—When by touch the situation, direction, and dimensions of the hernial sac have been recognized, the incision must be made opposite it. But if they have not, it is made on the centre of the hernia in a vertical or slightly oblique direction. Proportioned to the dimensions of the hernia, it must in all cases, however, have a minimum length of 15 to 20 centimetres to allow the easy introduction of the whole hand

into the hernial pouch. In very large hernias a long incision is sometimes necessary to facilitate reduction and suture of the muscles; in some cases it may reach without difficulty as much as 60 or 70 centimetres in length.

Thus exposed, the sac is found and opened on the same proportion and with care to avoid injury to the organ in ectopia. The skin and subcutaneous layers are divided, bloodvessels being secured as they are opened.

Second Step—Reduction.—The manipulations of this step vary according to circumstances. Three conditions may be present:

(a) In a first case, the hernia is recent and has been promoted by a traumatism which has perforated the peritoneum at the same time as the muscular wall of the abdomen. Thus there is no serous sac and the organ in ectopia, after passing through the peritoneal and muscular openings, is lodged under the skin. As soon as the cutaneous incision is made, the organ is found directly under. Then it is at once and easily reduced by direct taxis.

(b) In a second case, the hernia is still recent, but the peritoneum has resisted the traumatism and been pushed out by the organ in ectopia in the subcutaneous pouch; this is then lined in its whole extent with a serous coat, yet free from any adherence and constituting a sac which contains the abdominal organs in ectopia. After the opening of this sac the organ is reduced by direct taxis, and then either the sac is also reduced in whole if it is not too big, or, again, it is pulled out so as to form a kind of peduncle, upon which at its base and near the hernial opening a firm ligature of catgut or silk is applied. The protruding sac is excised and the peduncle pushed back into the abdomen. As the sac has not had time to contract adhesions with the skin, one might also, after the cutaneous incision, leave it intact, not opened, and return it in mass with its contents. This *modus operandi* is very delicate, demands great care and can scarcely be applied save on small hernias. At any rate, it is rare that during the cutaneous incision, on account of

the excessive thin condition of the sac, this is not accidentally opened, however careful the precautions may be.

(c) In a third case the hernia is old and has an adherent serous or pseudo-serous sac. Either the sac is formed by the pushed-out peritoneum, which in time contracts firm adhesion with the subcutaneous tissues, or, again, when the peritoneum, perforated by the traumatism, has not taken part in the ectopia, and a pseudo-serous has formed by the organization of the subcutaneous conjunctive layers of the hernial pouch. The sac being opened and the organs that it contains being reduced, by direct taxis, the sac is isolated from the surrounding parts by dissection, a step of the operation always long and difficult, no matter what may have been its origin. One must then proceed slowly, little by little, using fingers and blunt instruments rather than bistoury or scissors. When the dissection is ended as far as the hernial opening, the sac is treated as in the preceding case, pedunculated, ligated and excised. The peduncle is pushed back into the abdomen.

It often occurs that, in very old hernias, the various organs in ectopia, intestinal loops especially, have contracted adhesions more or less firm; these interfere with the reduction, and must be first of all removed. The operation is still more delicate than the preceding and requires great care, so as to avoid injuring the intestine. If, notwithstanding all attentions, a perforation should be made, this must be closed by suture before the reduction is completed; but if the number of perforations be too great or their size too wide, the accident being too serious, it would be more prudent to stop the operation and at once slaughter the animal for the butcher.

In other circumstances, such as the excessive distention of the protruding organ by gases, or as the strangulation of the hernia, the reduction of the contents of the hernia is interfered with or perhaps cannot be executed. In the first case, puncture with a fine trocar is without danger and is sufficient to overcome the difficulty. In the other, incision of the hernial opening is indicated, made towards the superior commissure, with a blunt

bistoury or a guarded instrument guided with a directory. Anyhow, it is necessary to resort to this last step every time that the size between the mass in ectopia and the opening renders the manipulations of reduction too long and difficult.

Third Step—Closing of the Hernial Ring.—This step includes the suture of the musculo-aponeurotic opening of the abdomen.

For recent hernias, the suture is made immediately after the reduction.

For old hernias, the edges of the ring having cicatrized separately and being fibrous, it is necessary to have them unite to excise them with the scissors or bistoury.

When the perforations of the various muscular layers of the abdomen are exactly superposed the *modus operandi* of the suture is simple. But it is no longer the same when, as it most frequently occurs, each of the injured muscles have given away in the direction of its own fibres; the lacerations thus cross each other in X fashion and the complete obliteration of the hernial ring demands several sutures on different levels.

During the suturing, the organs which were reduced, especially if they are intestinal loops, have a tendency to again escape. It is necessary to keep them in the abdomen, away from the opening, so as not to injure them with the needle. If the ring is small this is done by passing the left hand through the ring into the abdomen, with its back turned towards the organs and the palmar face resting on the internal face of the edges of the opening so as to guide the needle. When, on the contrary, the hernia is very large, and the abdominal laceration wide, an assistant as made to introduce and keep in the abdomen a cloth, well aseptized, which will isolate completely the organs from the borders of the perforation. This cloth is taken away later, when the suturing is sufficiently advanced, when the exit of the intestine is no longer possible or can be simply prevented with the hand.

The suture is made of strong catgut or solid silk thread. A few separated stitches are sufficient for simple and not exten-

sive perforations. With wide lacerations it is difficult to bring the edges exactly together; then one or several temporary stitches are placed in the middle of the borders; these are brought as close together as possible, and then other final separated stitches are made on the entire length.

With multiple tears, where several torn muscles cross each other in X fashion, the suture of the deep layers is made first, and afterwards the superficial, being careful in suturing the entire mass of the muscular layers with several isolated stitches.

When the operation lasts long, there sometimes appears a tympanism, which, distending the abdomen, keeps the edges of the muscular orifice apart, and interferes with the application of the sutures. In such a case, puncture of the rumen is indicated to relieve this little difficulty.

Often, under the effect of the extreme tension of the stitches of the suture, especially in very large hernias, the muscles give away and tearing is impendent. This complication is avoided by introducing the needle several centimetres away from the borders of the opening so as to include in the suture a greater thickness of muscular tissue and then reinforcing the suture by extra supporting stitches.

And, again, if there are difficulties which cannot be overcome, it is not essentially necessary to make the edges meet perfectly exact; holding them simply close, the inflammatory exudation will yet be sufficient to close the narrow space left between them and allow cicatrization.

Lafitte has advised to make the suture, "having the hind leg pulled backwards, in such a way that the animal, once up, the stretch applied upon it by the viscera shall be as little as possible." I think this measure is a wrong step, as, at least in some cases, it may render the step of suturing more difficult by widening to excess the edges of the hernial ring.

Fourth Step—Cutaneous and Permanent Stitching.—After the deep sutures of the abdominal walls are made, the serosity and blood are wiped out of the cavity; this is washed with boiled water, then with antiseptic solution, and the operation is

completed by suture of the cutaneous wound. This can be made, without special precautions, with Florence hairs, by interrupted stitches, when the hernia is of small size. If it is large, it is better to make a selvage suture with strong aseptic silk thread or fine silk fishing line. Besides, as in such cases there remains an excess of skin, it is prudent, so as to allow the adhesion of the cutaneous and muscular layers and obtain the complete and immediate disappearance of the cavity, to excise first a more or less wide piece of skin on each side—melon-slice shape.

The operation is completed by the application of an antiseptic dressing, with a bandage in belt rather firmly tightened. I generally dust the wound with iodoform ; it may also be protected with gauze and aseptic wadding. A bandage 12 or 13 metres long and 15 wide is rolled around the body. It acts as a surcingle, having for object, first to assist the adhesion of the skin in preventing the gathering of serous exudates under it, and, again, it supports the muscular suture against the pressure of the abdominal viscera.

The operation ended, the animal still asleep, is left on the bed. After a certain time, which varies, generally several hours, it gets up. It is prudent, however, during the anæsthesia, to turn it over once or twice ; paralytic accidents may be avoided, they being sometimes the result of too long decubitus on one side.

After-cares and Sequelæ.—During the two days following the operation, there appears in the neighborhood of the seat of the operation and in dependent regions, an œdematous-swelling due to a serous exudation of inflammatory nature. If this swelling is small and remains stationary, there is no need to worry about it ; it will disappear by resorption. If, on the contrary, the swelling is large and increases rapidly, one must interfere at once or the pouch will soon be transformed into a cystic cavity. The bandage being taken off, the lowest stitches of the cutaneous sutures will be removed, or, again, a counter-opening shall be made in the most dependent part and a drain-tube introduced.

The serous discharge will at first be abundant, but will soon subside, and cicatrization will go on regularly. In the most fortunate case this will take place by first intention, and nothing remains to be done until the time comes to remove the sutures of the skin. I have obtained this result once in a case where the incision was 70 centimetres long and where a flap of skin of the same length by 20 centimetres in width had been removed.

Sometimes, however, the subcutaneous pouch becomes infected, either by the sutures or the counter-opening above alluded to. As soon as suppuration appears, the stitches that are involved must be taken out and the hernial cavity treated as an ordinary wound. This complication is, nevertheless, without danger; it does not promote peritonitis, because as soon as it appears—that is, after four or five days—the wound of the muscles and aponeurosis is already closed; all it does is to retard the final cure.

A slight febrile reaction appears sometimes in the evening of the next day after the operation; it is always without importance and of short duration.

For a few days, careful *régime* is indicated, small quantity of selected food in small bulk, farinacious and cooked roots, to avoid a too strong push outwards of the digestive organs against the musculo-abdominal sutures.

Eventration and peritonitis, so much feared in previous times during or after this operation, are, so to speak, no longer to be feared, at least among bovines. The first is avoided by anæsthesia, which does away with all expulsive efforts from the operated; the second is almost impossible, because of the exceptional resistance of the peritoneum of ruminants to infections and also of the aseptic measures recommended.

Results.—These vary with the situation, the size, and the nature of hernias. Those situated in the superior region of the flank are, generally, formed through a narrow opening, small, and have little tendency to enlarge. It is easier to hold them reduced, and the suture has not to support the weight of the abdominal viscera. In these conditions the cicatrization is

quick and regular. On the contrary, lacerations in the lower abdominal regions spread rapidly under the pressure of the abdominal organs; the hernia soon becomes very large and the suture is too extensive to be able to assist the weight of the viscera. However, I have been able to obtain recovery in a case of hernia situated on the inferior abdominal wall which had an opening measuring 50 centimetres in length.

Likewise, hernias of the intestines or of the abomasum are in general easier to cure than those of the rumen, which are always much larger.

However, one must never allow himself to be impressed by circumstances even apparently very unfavorable. One must always bear in mind (1) that no curative method is as good as that by the operation; (2) that wonderful recoveries have been obtained; (3) that in case of failure there always remains the possibility of selling the animal for butchery in the few days following the operation, as soon as the anæsthetic used has been eliminated.

(a) Few French veterinarians have, since about a century, attempted this operation and obtained encouraging results with methods which are certainly less perfect than the one we have just been considering. Most of these observations relate to *recent hernias;* one only, Serres, speaks of an *old injury*.

In 1828, Peyron operated upon two cows affected with large intestinal hernias at the lower part of the right flank, one 20, the other 14 days old. The treatment was incision of the hernial opening, closed with furrier's suture, quilled suture of the skin, and a bandage around the body. In the two cases the recovery was complete in three weeks after the operation.

A few years later, 1837, Dandrieux also obtained in a cow by the same operation complete recovery in 20 days of an enormous mixed hernia of the small intestine and the abomasum only one day old.

In 1844 Terrien mentioned the recovery by operation of two cows: they had large intestinal hernias, one for five days, the other only one day, strangulated in one and occupying the

whole extent of the right flank as far as the udder. It took one month for complete cicatrization. The treatment consisted in reduction after incision of the ring, suture of the abdominal muscles first quilled suture of the skin, firm bandage around the whole.

Serres also says that he had often resorted, with success, to the operation for intestinal hernia, but does not give any record of recovery of recent hernia.

Other similar cases have also been recorded by Guittard, Lamoureux, and Mesnard.

One of the cows observed by Guittard had a large mixed hernia of the abomasum and of the intestine, five or six days old, situated in the left flank. It was treated by incision of the skin, incision of the abdominal opening, reduction, selvage suture of the abdominal muscles with strong waxed cord and quills, dressings of camphorated alcohol. Recovery was complete in a month. Another cow, pregnant for eight months, had for fifteen days in the left flank a large hernia of the cæcum and large colon. Operation and recovery as in the preceding case.

Lamoureux has treated a large intestinal hernia of the left flank with the operation. Incision of the skin, reduction of the intestine, suture of the muscles with waxed cord, creolin dressing held in place with quills on the cutaneous edges, and tight bandage around the body. Recovery was slow on account of the slow elimination of the cord used as ligature. It took two months.

Finally, Mesnard has recorded a very interesting recovery in a cow, suffering for two days only with a strangulated ventral hernia, which was obtained by following the modern rules of asepsy. The very narrow hernial ring was closed with two stitches of catgut, one applied on the aponeurotic and deep portion, the other on the muscular. The skin wound was closed, hairs of Florence and a coat of iodoform collodion laid upon it. Three days after the wound was closed by first intention.

As I have said, there exists in our literature, at least as far

as I know, but one observation of radical cure by operation of an *old ventral hernia* in bovines. It is from Serres. A cow had for five months on the lower part of the right flank an intestinal hernia of very large size. After incision of the skin, incision of the hernial ring, the intestine was reduced, the edges of the muscular opening were excised and then brought together with furrier's suture, involving altogether the muscles and the tunica abdominalis ; a dressing held by quills was laid upon the wound and held in place by moderately tight bandage covering the whole. A month after the operation the cicatrix was complete, and twenty-five days after the animal delivered in the best condition.

(b) I have myself for several years operated on all the ventral hernias that came under my observation at the clinics of the school. I will select among those that I have followed three cases of interesting recovery.

Observation I—Recent Hernia.—One day a five-year-old cow presented on the lower part of the right flank a small ovoid tumor, which in the few days following increased rapidly. Indeed, on the low part of the flank, on a level with the fold of the stifle, there is a large spherical tumor (Fig. 1), measuring 40

FIG. 1.—INTESTINAL HERNIA (BEFORE OPERATION).

centimetres in diameter. It is not painful, soft, fluctuating, depressible, and œdematous; it is also reducible, and taxis reveals in the upper part of the lesion a solution of continuity in the muscular wall of the abdomen; this is narrow, elongated, and measures 10 centimetres in length with 2 or 3 in width; general condition is good, only slight diarrhœa and now and then colics. Evidently it is an acute intestinal hernia due to an unknown traumatism. The animal is a first-class milker; the operation is decided upon and performed nine days after the accident.

After twenty-four hours' fasting, the animal is prepared—the whole right flank is carefully shaved. Before the operation, 100 grammes of chloral are given in rectal injections in two doses, twenty minutes apart. The animal is cast on the left side and anæsthesia completed with chloroform. The field of operation is washed and disinfected with sublimate solution. Opposite the hernial opening a cutaneous incision is made, 15 centimetres long; the hernial pouch, with no serous lining, is exposed and found filled with loops of the small intestine and the uterus, whose condition indicates a recent delivery. The intestine is a little congested. The uterus is first reduced, then the intestine, without much difficulty, and the hernial opening is closed with sterilized catgut by interrupted sutures. It includes the various muscular layers of the abdominal wall, following the direction of the fibres. Two rows of stitches are necessary: one deep on the small oblique, the other superficial on the great oblique and abdominal tunic; both layers are sutured together afterwards. The hernial pouch being emptied, washed, and aseptized, a third selvage suture is applied on the edges of the skin with cord sterilized in boiling water. Iodoform on wound, collodion, pad of aseptic cotton, and a roller, 15 metres, form a contentive bandage.

No febrile reaction and general condition excellent for a few days. Still, there is serous exudation in the subcutaneous sac; there is a large œdematous swelling forming and bulging in front and back of the bandage. The dressing is removed, the

pouch is punctured with a fine trocar and three litres of a sero-bloody fluid escape. Eight days after the operation the exudation has returned, but the cicatrization of the skin having taken place by first intention it is necessary to puncture the pseudo-cyst with the actual cautery. Once the fluid escapes, the pouch becomes infected and suppurates for several weeks. A month

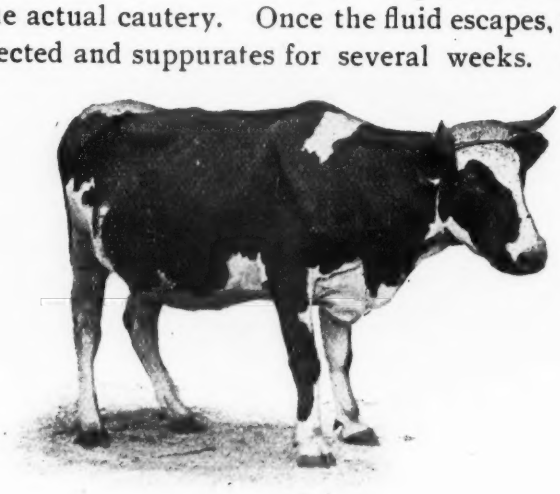

FIG. 2.—INTESTINAL HERNIA (AFTER OPERATION).

after the operation, there only remains a small elongated tumor with indurated base. Radically cured (Fig. 2), the animal is returned to its owner, who kept her for several years.

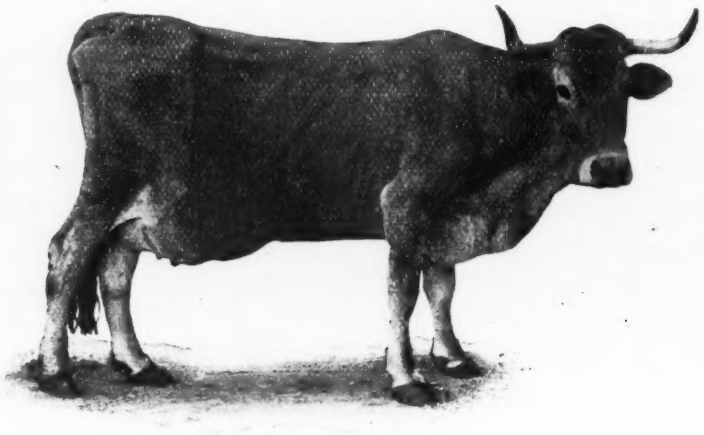

FIG. 3.—INTESTINAL HERNIA (BEFORE OPERATION).

Observation 2—Old Hernia. — A ten-year-old cow was brought to the clinic carrying a large ventral hernia, in existence for about two months, after a normal delivery. The lesion occupies the whole of the lower part of the right flank (Fig. 3), reaching forward to the sternum, depressing the udder to the left and arriving rather high between the hind legs. There is a small cicatrix on the postero-inferior part, a little below the stifle. The characters are those of an intestinal hernia. On account of its great weight, the presence of a hernial opening cannot be revealed by taxis; but in dorsal decubitus a wide circular perforation of the abdominal wall is easily detected; through it a portion of the ectopied mass can be momentarily returned into the abdomen. The general condition is not too bad; the animal is very thin, but all the general functions are normal.

Notwithstanding the conditions, the operation will be performed. All the cares of the preceding case are here again fulfilled, and when the animal is anæsthetized, as above, it is placed in the dorsal position, with the right posterior leg stretched backwards. After disinfection the skin of the lower and posterior part of the lesion, on the level with the cicatrix, is incised obliquely from above, below, and from forward, backward, to the extent of about 35 centimetres. The wide subcutaneous pouch, without peritoneal lining, is entered and found to contain almost the whole of the small intestine and a portion of the large.

The hernial opening runs through two muscular layers—the small and the great oblique. They were ruptured in the direction of their fibres and there were therefore two openings superposed, crossing each other slightly, but which by their edges, stretched apart in different directions, gave the impression of a single opening, circular in form. Besides that, there was in the centre of the opening a central band, 3 or 4 centimetres thick, dividing it into two equal parts, and formed by an inflamed and sclerosed portion of the abdominal muscles. This band interfered somewhat with the manipulations of reduction, as the

loops of the intestine roll around it now and then. Still, without much difficulty, the whole ectopied mass was reduced.

With a strong catgut, and without dividing this strong band for fear of hæmorrhage, two rows of sutures are applied and brought together afterwards with a few interrupted stitches. The hernial pouch was sponged, washed with boiled water and sublimate solution, and afterwards the cutaneous wound was closed with selvage sutures with strong aseptic silk cord. An iodoformed collodion dressing, covered with aseptic cotton, was applied and protected with a band of cloth rolled around the body.

The animal had no febrile reaction, but two days later the hernial pouch began to enlarge by a serous exudation, which rapidly increased, and seven days after the operation it became necessary to remove the bandage, to make a puncture with the trocar and allow the escape of four or five litres of sero-bloody fluid: in the meanwhile the cutaneous wound had cicatrized by first intention.

Nevertheless, the serous exudation continued, and the pouch kept on filling and increasing gradually and regularly in size. It soon assumed alarming proportions and threatened to degenerate into a large cyst. On the twelfth day it was freely incised. It was then found filled with solid exudates, partitioned and divided into wide pouches, separated from each other and filled with some thirty litres of citrine liquid.

To insure a perfect and rapid adhesion of the pouch with the abdominal wall, and to avoid the return of this complication, a long and wide flap of skin was removed and the edges brought together with a selvage suture with aseptic silk and a drain applied at the lower part of the wound to allow the escape of the serosity. Cicatrization then went on regularly and without suppuration in the whole extent of the stitched portion. The drained wound suppurated a little. A month later the animal was completely cured.

Observation 3—Old Hernia.—A cow, about ten years old, has suffered for two months and a half with a large intestinal

hernia, situated on the lower region of the right flank. The lesion extends horizontally as far as the hypochondria, and measures 60 centimetres in length, 40 in width, and 30 in thickness. It is easily reducible through an opening 15 centimetres long, with thick and indurated borders, which by taxis one easily feels at the anterior and superior part of the tumor, immediately back of the hypochondria. The animal is thin and worn out, yet her appetite is good. Notwithstanding the unfavorable conditions of the size and age of the lesion with the worn-out appearance of the animal, the operation is decided upon.

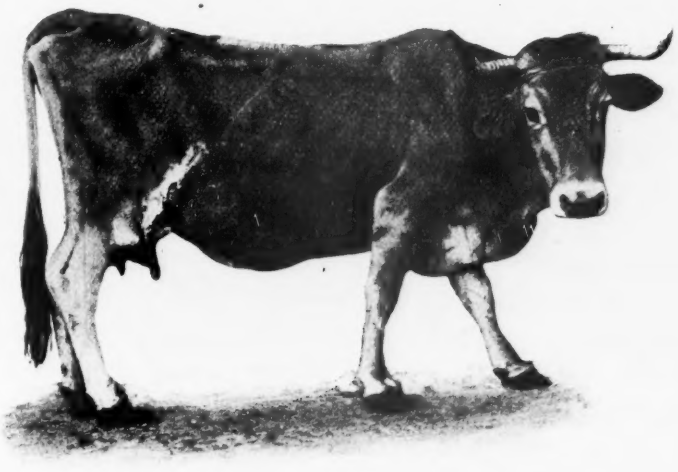

FIG. 4.—INTESTINAL HERNIA (AFTER OPERATION).

The animal, well prepared, and the anæsthesia obtained with the mixed method of Dastre and Morat, viz., injection of atropine and morphine previous to the inhalation of chloroform, the operation is performed as follows: After disinfection of the field of operation, the pouch is opened with an incision made on a level and in the direction of the hernial opening. A serous sac is then exposed, formed by the peritoneum in ectopia and slightly adherent to the internal face of the sac, which it lines in its whole extent. On the borders of the hernial opening it forms a shrunken, fibrous and thick cord. The hernial sac is

carefully opened with a straight bistoury, guided by a grooved directory. At once the small intestine is exposed, normal and free from any adhesions. It is easily reduced and held back with an aseptic cloth laid over it. The slight adhesions of the serous sac with the internal face of the cutaneous pouch are carefully isolated; it is pedunculated, ligated and excised. There was, close to the ring, a small cyst, hermetically closed; this was removed, and contained half a litre of yellowish serous fluid.

After excision with scissors of the borders of the hernial opening, the edges were brought together with interrupted sutures made of catgut. Tympanism occurred during the whole operation, which required puncture of the rumen, performed with difficulty, as the animal was lying on its left side. A cutaneous selvage suture was made on the wound with aseptic silk and covered with an antiseptic dressing of iodoformed collodion.

Still under the influence of chloroform, the animal was left on the bed of straw where she had laid. When she got up she had slight paralysis of the extensors of the left anterior leg, upon which she had lain for over six hours.

Nothing abnormal occurred in the following days except a slight serous effusion into the lower part of the pouch. This was opened, the fluid escaped gradually, and three weeks later recovery was such as to be considered final.

DR. GULIAN C. FAGAN has removed from New York City to Warwick, N. Y.

DR. VAN GIESSEN, of the New York City Board of Health, will address the Veterinary Medical Association of New York County at its June meeting on "The Negri Bodies in the Diagnosis of Rabies." Dr. E. A. A. Grange will present a paper on "Motor Stimulants in Horses."

"THE IOWA-NEBRASKA VETERINARY BULLETIN" says: "Dr. C. M. Day is conducting experiments at Council Bluffs with weeds found on the Missouri Bottom to ascertain which one is producing the peculiar disease known as the 'Bottom Disease,' from which so many horses die along the Missouri Bottom."

OBSERVATIONS MADE IN THE DIAGNOSIS AND TREATMENT OF PARASITIC DERMATITIS OF THE DOG.

By Frank H. Miller, D. V. S., New York City.

Read at the March Meeting of the Veterinary Medical Association of New York County.

Mr. President and Fellow-Veterinarians:

I presume the dictates of proper form in good circles indicate that I should lose no time in explaining how happy I am to be present with you to-night, but the plain fact is, few men feel really happy under like circumstances, and when I have the honesty to confess that I am before you in a more or less unprepared condition, I am sure you will agree with me, that I may be here both against my will and better judgment.

When our esteemed brother, your President, wrote me in early January and honored me with a request that I contribute a paper for the February meeting, I pleaded the excuse of personal pleasures anticipated, which would interfere with my being present in February, and gladly asked that I might be placed in line for this meeting and rashly enough suggested a subject; but as you all know, "pleasures are like poppies spread," and mine was followed by an attack of "Grippe" accompanied by a very marked increase in practice, some of which I think the more uncharitable of you may be inclined to believe was more or less due to our late dog show, of which I was the veterinarian in charge.

Be that as it may, the combination was so strong as to force me to abandon the task of preparing a long-winded, high-sounding paper involving the general subject of cutaneous diseases of dogs, nor have I many regrets that this is true, for the reason that such papers are usually constructed at great expense of time and thought, yet prove of very little interest, and as a rule promote but little spirited discussion, so desirable in clinical meetings of this kind.

I am not here, gentlemen, to give anything away, I am here to gather information from you and if possible to give something

in return, and would like to narrow my observations down to those made in the routine diagnosis and treatment of one of the most common, as it is loathsome, of diseases, with which we as veterinarians come in contact.

I refer to that form of parasitic dermatitis of the dog due to infection with the *Demodex folliculorum*, commonly, but I think very erroneously called, "Follicular Mange."

So common is this disease becoming that I venture to assume that there is not one practitioner of two years' experience present, who cannot look back and recall one or more good clients lost by reason of his being charged with the treatment of this disease; lost at times by reason of mistaken diagnosis; but more frequently by inability to effect cures within the limits of the dog's endurance or the client's patience.

Now, why is this?

Is it because this particular disease lacks the cardinal symptoms which make its diagnosis easy and certain under all conditions; or having been correctly diagnosed, is it because of the comparative indestructibility of this parasite as compared with others, which mitigates against satisfactory treatment, or is lack of exact knowledge of the process of dissolution of the parasite also one of our causes of weakness in combatting cases?

Basing my observations as I do entirely on personal experience, I am ready to admit, and that freely, that we often stand convicted upon all three of these points.

I know to my chagrin that I have at times made blunders in diagnosis which were little short of crimes, by trusting myself to physical examination alone, thinking the use of the microscope unnecessary. I know this to be the besetting sin of general veterinarians from the number of cases which appear for examination where lengthy treatments have been followed out for all manner of diseases except the correct one.

We are all prone to fall into methods of haste in this busy world, but the veterinarian who fails to demonstrate the presence or absence of the demodex by the microscope in these cases before he arrives at conclusions and outlines treatment certainly

is working upon his client's time and nerves and much against his own interests.

The number of conditions of the skin of the dog with which this disease may be confounded by mere physical examination are too numerous to mention, and only second in importance in arriving at an exact finding is our ability to exclude the possibility of the presence of two distinct diseases prevailing conjointly, a circumstance not altogether rare, especially in kennel epidemics.

Not only must we be perfectly familiar with the parasite in question, but long experience has more and more convinced me of the great value of studying the parasite as an individual, as their morphological aspects have come to bear much meaning in fixing the stage of disease and prognosis, as well as lending a most valuable (I may say the only) aid in computing the results of our treatment.

This observation resolves itself into an appeal for the constant use of the microscope, no matter how morally certain we may feel regarding our ability to diagnose diseases offhand.

If we will only submit every single solitary case involving the mysterious loss of hair in the dog unassociated with the intense itching which clearly makes for sarcoptic infection to rigid microscopic investigation, we will find this dreadful disease, after all, about the only one in all comparative medicine whose diagnosis can at all times be rendered absolutely error free.

Not only is the diagnosis open to the gravest question when this precaution is not observed, but this disease can only be pronounced cured when after the most rigid microscopic examination we can assure ourselves that the parasites are really no longer present.

So much, gentlemen, for the microscope in diagnosis; I will again briefly refer to its value in treatment.

Fröhner has drawn attention to the great number of remedies known to be of more or less service in the treatment of this disease and very correctly states that their numbers alone

would plainly indicate the difficulty in selecting a perfect cure.

He has also given for our great benefit a scale showing the relative action of many drugs when brought into direct contact with the demodex; but it will be noted that the time required to kill the organism is in the most instances prolonged, some taking a matter of hours, as in the case of one per cent. solution of arsenic, which requires two hours to destroy them; 10 per cent. creosote kills at once; 5 per cent. creosote up to 6 minutes; 5 per cent. carbolic acid about 5 minutes; pure creolin at once; wood tar at once; Peruvian balsam in 10 minutes.

In running over this scale, which may be found in "Friedburger and Fröhner's Special Pathology," under the section upon "Mange," two things will strike the attention very forcibly: First, that by far the greater number of these agents belong to the class of virulent poisons, many of them indeed to the escharotics, and yet we find this small animal resisting such solution as a one per cent. of sublimate of mercury for 15 minutes; while upon the other hand we learn that he is able to live for a short period only in the presence of balsam Peru, an agent which in nowise belongs to the poisons and can be safely given by the mouth even to the carnivora in relatively large doses.

What does this mean? Simply this: That the demodex enjoys life under laws somewhat different from those governing the existence of the higher organisms, and can live and thrive for a long time under conditions which would speedily destroy his host, and may be killed by agents which do not very materially affect higher animals.

And this brings me directly to the main point in my observations.

I have ceased looking in the direction of the drastics for an ideal remedy for this disease, and turned to try and find a specific among safer agents.

I have cured many cases permanently by the application of balsam of Peru, creolin and alcohol, but the time required has almost invariably extended over the third month.

During the past year I have learned to replace the Peru

with large quantities of oleo-resin aspidii, still retaining about eight per cent. creolin, replacing one-half the alcohol (grain spirit) with methylic spirit and in the cases of the robust breeds using the latter altogether; an advantage both as regards the cost and efficiency and without ill results of any kind.

Under this treatment I am, in the great majority of instances, with equal diligence and thoroughness of application, able to cut off about one-third of the time required by the old method, reduce the expenses one-third, and inject great elements of safety by cutting out all of the more deadly agents.

While the aspidium has the great disadvantage of being costly and of exceedingly bad odor, it has in later years become known as one of the very safest of drugs even when given in extremely large doses.

The question naturally arises as to how this drug exerts its powers as compared with those formerly used. In reply to this I can only say that in my candid opinion it kills out the disease in just the same manner which other agents have done; this not in any sense by reason of local action (in coagulating the protoplasm of the organism by dehydration), but simply and wholly by rendering the conditions of life so very unsuitable to them, as to render them incapable of reproducing their kind, and since such would of necessity be a matter of disturbed nutrition ultimately moving the death of the organism itself.

This, gentleman, is my opinion, based upon general results and close examination (microscopically) of cases under treatment.

I invariably find in such cases as are moving along toward recovery, regardless of this or any other treatment, that the first change is seldom any very marked diminution of the numbers of parasites present; nor for quite a long period is there any perceptible change in the physical appearance of the individual organism.

Finally the organism begins to show change in outline, becoming less long, especially in the posterior parts, and from about this time onward they appear to gather pigment and finally the

entire belly part becomes one mass of degenerative granulation, and the general outline will have become decidedly "chunky," so to speak.

These conditions, if treatment be correct, are now rapidly followed by great diminution of their numbers and early death and disappearance.

In addition to these gradual and well-defined changes, I am convinced that it is a matter of retrograde evolution by reason of the ultimate disappearance of young parasites, characterized as they are by having only three pairs of legs as against the four pairs of the adult, and especially since I had several complete recoveries where treatment was abandoned at a point where parasites were still present, but evidently much embarrassed in their generative possibilities, but not entirely destroyed.

This, gentlemen, forms my final appeal for the value of the microscope in treatment as well as diagnosis. Its use is simply indispensable.

DR. R. A. RAMSAY, recently made Superintendent of Interstate Quarantine Service of the B. A. I., visited the Kansas City Station in March.

THE HORSE INDUSTRY GROWS.—Statistics submitted to the House of Representatives, in connection with the agricultural appropriation bill, show that there has been a notable increase both in the number and value of horses in the United States in last nine years. The aggregate of horses January 1, 1906, stood at 18,718,578 against 14,364,667 at the corresponding date of 1897. Their total value increased from $452,649,396 in 1897 to $1,510,889,906. This startling rate of increase in value is no more marked than that of mules, according to the same Government authorities. There were 2,215,654 mules in 1897 and 3,404,061 in 1906, and the values were, respectively, $92,302,090 and $334,680,520. If these figures are trustworthy there must have been some improvement in quality as well as noteworthy increase in numbers in the nine years, to account for all the difference. Accuracy in numbers is more easily attainable than accuracy in valuation. An enumeration is not a difficult task, whether it deals with human beings or valuable animals; but the ascertainment of individual wealth, or the valuation of property, is a process fraught with difficulties.

A HEART TO HEART TALK.

By Dr. W. L. West, Kansas City, Mo.

Read before the Missouri Valley Veterinary Association, February, 1906.

I am not sufficiently venerable and a long way from wise enough to pose as an oracle or try to instruct the brilliant and erudite audience I see before me this evening. If any of my criticisms are too strong, you must remember that all stimulants are more or less in contact irritants, and, again, these societies are not formed for expressing mutual admiration, but for mutual benefit and improvement and nothing begets improvement more readily than good sharp criticisms if applied and received in the proper spirit. William Osler, the most famous diagnostician and teacher in the medical world to-day, said recently in an interview that the saddest thing to him in life was the fact that most of his former pupils were mentally dead; this applies with more than equal force to the veterinary profession, in which a large majority of the men begin at once upon leaving college to fossilize and inspissate; they won't buy the new books or study the old ones; they won't buy new instruments and will hardly keep their old ones in fit condition to be seen; they won't attend meetings of their local societies, and consider it a waste of money to subscribe for a professional journal.

Now, there is no excuse for this state of affairs and the three most prominent etiological factors are ignorance, laziness and indifference.

The fact that a man was so unfortunate as to have his early education neglected and have been at work when he should have been in school, is a good reason why he should be pitied, but in this enlightened age if he continues to be illiterate he is not worthy of pity, but is only entitled to the contempt of honest men, for there is no reason why any man by devoting a few minutes each day to study, or attending a night school, should not get a fair amount of education, which will then only be limited by his persistence and courage. The principal trouble with the class of which I am speaking is not that they have no

opportunity to acquire knowledge, but they are so badly affected with hyperplasis of the cerebrum that they do not see or feel the need of any further knowledge and have strong doubts if there is anybody wise enough to teach them anything.

This is as fatal to progress as death itself, and I pity any person who is afflicted in this way.

The profession is making such rapid strides in the realm of knowledge, that a man who has been out of school for five years should take a post-graduate course, brush up and make an effort to move along with the procession instead of lagging behind and staying in the same old rut year after year. Another thing to think of is, don't let money alone be your being's end and aim, for there are many other things of far more value than money; among them are a good name and the reputation of having some stamina, force and stability, as well as a conscience and a firm determination to do right for right's sake; not that I despise money, far from it, but its only use or its only proper use is its ability to procure for us those things which make life worth the living and add to the happiness of those we love; make it your servant not your master, for, with the immortal Goldsmith, we may say "ill fares the land to hastenings ills a prey, where wealth accumulates and men decay;" not that I would counsel you to be reckless in your disregard for money or to spend it upon those things which are found to be vanity and froth, but would advise you to spend it in a wholesome way with due regard for the improvement of your own and your family's condition.

I can do no better in pointing out to you my idea of what a veterinarian should be than to quote to you an extract from the remarks of Prof. Elliot, of Harvard, to the undergraduates, on the durable essentials of life: "Not simply by earning good livings—not by wealth—not by fame—not by excitements, but by the lasting and durable satisfactions of life are a healthy body, a vigorous, responsive, interested mind—a love of honor for honor's sake." This coming from a man than whom there is no more polished gentleman, more ripe philosopher, or more

cogent reasoner alive on earth to-day, should be accepted by us as final and complete.

Keep your eyes open and be at all times keenly alive to all opportunities for acquiring knowledge, as such opportunities may arise in the unexpected ways and in the most out of way places.

Right here I wish to tell you of an experience of my own where I received a valuable hint from a man who was certainly as humble and illiterate as most. I was going a few miles out to castrate some boars weighing about 400 pounds each and took this man along to help secure them. On the way, I was planning how to secure them for the operation, when the man above referred to, said, "I will show you how to hold them, if that is what you mean." When we arrived, he took a sugar barrel and laid it on the side and sprinkled a trail of corn up to and into it. When one of the boars went in after the corn, he seized him by the hind feet and with him ended up the barrel and by spreading his legs I had as good an operating table as you could ask for, with many desirable features, among which are: the hog can't hurt you, he can't hurt himself, he can't get away, and you can release him instantly.

We must not get the idea in our heads that because we have some technical training that we have secured a preëmpted right to and a monopoly of all observation, for we meet men every day who are in the most humble walks of life whose powers of observation are wonderfully acute and logical. Some of the most useless and dangerous mistakes of veterinarians are made through ignorance induced by laziness; for instance, I knew a man who while in college was a fairly good student who, after being out a few years, while operating on a poll-evil, excised the retrehentes aurem muscle in a very valuable show horse, leaving him with an ear dropped down over the front of his face like a green patch on the eye of a blind man. This was all due to laziness; had he looked up the anatomy of the part, separated the fibres and put in a drainage tube, he would have saved the looks of a good horse, the wrath of the owner,

and himself a damage suit. A veterinarian of my acquaintance was called to see a cow which was paralyzed (ante-partum). He knew he ought to perform dilation of the os and remove the calf, but it was a cold and a dirty job, and he stifled his conscience by leaving the owner some nux and trusting to luck, not Providence—I don't think Providence ought to be accused of having any part in such a performance. Well, the result was, the cow sprawled around for some time after being due to calve, and at last, the owner dilated the os and removed the macerated fœtus, when the cow recovered. The veterinarian lost hundreds of dollars by being too lazy and indolent to do his manifest duty.

There are men who occupy prominent positions, who make most glaring mistakes — some through ignorance and some through a general inherent meanness. I have in mind a man who has long been at the head of the sanitary work in a large and prosperous State, who has retained his office by the foulest kind of wire-pulling, and who has repeatedly been informed of abuses of the laws he is sworn to enforce, among which is the law that all animals shipped into the State shall be tested with tuberculin and proven free from tuberculosis. One neighboring State where the most conservative veterinarians assert that two per cent. of the cattle are tuberculous, has within the past five years shipped into the State presided over by the above-named person, more than sixty thousand cattle, mostly for dairy purposes; and these cattle are alleged to have been tested by agents who are selected by, and vouched for, by this man, who are in many cases laymen and in this period not one case has been reported as tuberculous.

One firm who ship from one to three carloads per week get their testing done, or rather their certificates signed, for five dollars per week, so I have been told. There is no excuse for this and I am glad to say that the party above mentioned has no standing with the rank and file of the profession and should be fraternally ostrasized.

A very common mistake made by veterinarians when first going into practice is locating their offices in livery stables.

The writer had his in one for four years, and while in some cases there may be extenuating circumstances, the principle is wrong. There are many people who do not wish to bring an animal to a livery stable, there is nothing refined or elevating in the environment, and it is quite likely to breed a feeling of jealousy among other stable owners or dealers. Get an office, if possible, where you can have an operating room in connection, and keep it clean, not only of dirt, but of an undesirable element, viz., loafers. This I wish to emphasize, for nothing tends more to keep desirable clients away than to have to describe their cases before a gaping crowd of idlers.

One of the worst and most dangerous phrases a veterinarian can get into the habit of using and being satisfied is, "that it will do." Now, if it is your best there is no need of qualifying it, and if it is not your best, don't allow it to get away until your very best has been done. Keep your horses in good condition, and don't drive a lame one, for it is certainly a bad advertisement and reflects upon your ability.

Keep your buggy clean and in good repair. I have seen veterinarians riding in buggies which at a distance, coming toward one with curtains flapping in the wind, resembled nothing so much as a vampire bat.

Don't dispense your medicine in beer or other old bottles. New ones cost a very little more money. Also have neat and modest labels, affixed to all packages of drugs you send out.

Keep your instruments clean, not only ordinarily clean, but sterilized.

Keep an accurate record of all the work you do and the amount of money you receive for it. Don't do cheap work and don't cheapen yourself or the profession accepting a twenty-five cent fee. If any service is not worth more than that, make the party a present of it and ask them to call again.

You will be respected as you respect yourself. If you conduct yourself as a refined professional gentleman you will be so accepted by the people. On the other hand, if you associate habitually with the tough element, you will naturally be con-

sidered one of them. I know, of course, a man must be thrown in with some people in a business way who are undesirable as regular associates, but the fact that you would not invite them to a party at your home does not prevent you treating them in a perfectly courteous and gentlemanly way.

Take an interest in the affairs of the city in which you reside. Have some civic pride and show it by inquiring into the way the local health board is conducted; look into the city inspection of meat and milk and all food, and don't hesitate to let your views be known, for if *you* don't have any interest in these things, how could you expect others outside the profession to do so?

A very common mistake of veterinarians in cases of puzzling foot lameness is not removing the shoe. Always do this, no matter if the trouble seems quite plain, and you will be repaid. I knew a case presented with a history of sudden lameness, with one ankle behind badly swollen and tender to the touch. The veterinarian to whom the case was presented looked at the foot casually, and the ankle intently, and prescribed a cooling lotion. The case was seen several times and grew worse, and when a consultation was had, by removing the shoe and by a careful searching of the foot, a large nail was found firmly embedded, leading to a suppurating wound.

Prof. Dick used to relate a case where a fracture was caused by a nail in the foot and the case would have been lost but for his unvarying rule "to always remove the shoe."

A great and fatal mistake made by many veterinarians is in trying to get along without proper equipment in the way of books, instruments and means of restrainment. I am not advocating a young practitioner's loading himself up with all sorts of useless truck, most of which is simply made for sale—but no man should try to practice without a good working library, all necessary instruments, and at least two or three different means of restrainment. In the matter of instruments, and more especially in the matter of dental instruments, I have found a good many exposed for sale which must have been made by a

blind man, or, at least, the maker could certainly have never seen a horse. A good way to get useful molar extracting forceps, for instance, is to take a skull and saw out the external plate so as to expose the direction in which the molars are implanted and must be drawn and have a good mechanical blacksmith make a set of forceps suitable to the case. There are mistakes of omission as well as commission. If there is one plan or duty more than another that is calculated to help a man to be a better practitioner, it is in the keeping of a case-book and make it complete and a full record of the case—diagnosis, prognosis, treatment, result, and post-mortem. Don't neglect the latter, for there is a great deal of satisfaction in verifying a correct diagnosis and much helpful stimulation in finding out what was the trouble, even if you are wrong. In keeping this case-book don't cheat yourself and pad it up afterwards with the diagnosis you would have made if you had seen the post-mortem first; that won't help you any; but make the record complete and absolutely true; even if it hurts some, it will help later. While we are on this subject let me say never neglect an opportunity to make a post-mortem if you have had the case in charge, for nothing adds more practical pathology than a series of careful and intelligent post-mortems. But there is something more to a properly made post-mortem than merely opening the abdominal cavity and looking at the various organs exposed, meanwhile holding a handkerchief to the nose and standing about ten feet away, which I have actually seen some veterinarians do.

Eternal vigilence is the price of liberty; eternal study is the price of knowledge, and I have never yet seen a good man who was not a reader. I have in mind at present a classmate who was unfortunate in his inability to readily grasp essential details but very fortunate in his capacity for sustained mental effort, who by constant, earnest and intelligent digging, has placed himself at the head of a State institution and is in a fair way to be a national figure of prominence. Don't be too dignified to attend to small details. When Nicholas Senn, one of the world's

most famous surgeons, went to Germany to study, he entered the clinic of one of the world's savants and upon entering was told to wash some bottles at a sink. He inquired if they knew who he was, and was told yes, but wash the bottles, and he washed them and thoroughly without doubt.

One great and at times fatal mistake that is made every day by many practitioners is that they do not use and rely upon the help given them by the use of anæsthetics. I have even known men to perform oöphorectomy in bitches without using an anæsthetic, and in fact I did so once myself, but only once, and I am willing to give a bond that I will never do so again, for I can still hear the cries of the poor beast, and I have much less respect for myself every time I think of it. It does not seem necessary to use much time in argument in support of the more routine use of anæsthetics, for they are humane, their use renders difficult and dangerous operations safe and harmless, they add to the respect for skill with which the surgeon is regarded by the community, and finally the special skill of the trained anæsthetist is acquired by the constant, careful and continued use of these agents.

I hope I have not, from my somewhat emphatic criticisms of the profession in general and some members of it in particular, given you the impression that I am a pessimist—far from it; but I don't think it a wise plan for us to let a too brilliant optimism blind us to our palpable faults.

I believe in the veterinary profession, and I believe it the grandest and most noble vocation in which a man can spend his life. What can be more calculated to lead to the highest realms of peace and happiness than a life spent in the alleviation of the ills and pains of our dumb friends? Gentlemen, I thank you for your kind and thoughtful attention.

TWENTY-SEVEN veterinarians took the Civil Service examination for meat inspector at Kansas City, April 18th.

"THE REVIEW is constantly improving in quantity and quality. I read it regularly with pleasure and profit."—*(C. A. Cary, B. S., D. V. M., Ala. Exp. Sta., Auburn, Ala.)*

SPAYING THE HEIFER.

By Dr. J. W. Robinson, Coleharbor, N. D.

Presented to the 1906 Meeting of the North Dakota Veterinary Medical Association

Spaying the heifer is an operation simple enough to the surgeon who has acquainted himself with the work by experience, but to the beginner it seems rather hard to find the proper literature on the subject. At least in my case, I could find but very little practical information outside of surgeons in active practice.

The method I have used is according to the valuable information I have received from Dr. Treacy, who kindly helped me by letters, as I was unable to be with him while operating.

The following outline of the work is intended for field work only, as in spaying on the range we must be quick and practical and cannot spend much time on sepsis. In fact, my experience has proven to me that the operation is much less dangerous if performed quickly than if much time is taken with the hand in the abdominal cavity searching for the ovaries.

Season.—I would prefer spaying at the ordinary castrating season, when the weather is fine and the grass has a good start.

Age.—I prefer operating on yearlings, or what might be termed last year's calves, as they seem to stand the operation well, and at this age there is very little danger of any being pregnant.

Mode of Confinement.—I prefer throwing and tying as for branding; that is, throwing by a slip noose on the hind legs and then tying the front feet, when down, in a similar manner, stretching the ropes tightly to opposite fence-posts in the corral.

Point of Operation.—The left side just anterior to the angle of ilium. Clip the hair and wash the surface with a lysol or creolin solution.

Instruments.—Curved-bladed castrating knife, Miles' spaying shears, Miles' spaying needle, and plenty of strong silk.

Operation.—Make an incision with a curved blade of castrating knife, about four inches long, in a downward and for-

ward direction, keeping as high up as possible and cutting only through the skin and fascia. Now, with the fingers, divide the muscles in the direction of their long fibres. If the opening cannot be made large enough in this way, the knife can be used at either end, being careful not to cut more muscle fibres than necessary, as such a procedure would prevent the closing of the wound and delay healing. When the opening is large enough, insert the hand and puncture the peritoneum with the middle finger, being sure to use force enough to thrust directly through, as if moderate pressure is applied with several fingers, the peritoneum will separate from the muscles, thus allowing the hand to pass between. When the abdominal cavity is entered, keep the hand high and directed backward into the pelvic cavity and search for the left or upper ovary, which varies in size from a common bean to a walnut, according to size and age of the animal. For the beginner it is often difficult to distinguish between the ovary and lymphatic glands of this region, but after a little practice, it can easily be distinguished by its firm membrane.

When located, grasp the ovary between the thumb and forefinger, being careful that no intestine or omentum is included. Insert the shears, guiding the curved points along the arm and hand, open slightly and cut with short snips, keeping close to the thumb and forefinger. Remove the ovary and search for the other, which is removed in a like manner.

Sew the skin with a X-suture, using heavy floss silk, leaving the peritoneum and muscles to take care of themselves. Dress the wound with Squibb's compound alum powder, or boric acid and iodoform.

After-care.—Give access to good, clean pasture, away from old corrals or cattle sheds.

"ARTIFICIAL IMPREGNATOR IN HORSE BREEDING" is the title of Circular No. 5 of the Oklahoma Agricultural Experiment Station, Stillwater, Oklahoma, Dr. L. L. Lewis, Veterinarian. Full instruction on its use is given, with a consideration of the various methods and instruments.

ANIMAL PARASITES OF TEXAS.

By Joseph W. Parker, D. V. S., San Antonio, Texas.

In view of the importance of ectoparasites from a live-stock sanitary point of view, and the considerable number of veterinarians interested in this work, the following notes with reference to parasites found in Texas are offered:

Amblyomma Maculatum. — Reported by the writer in August, 1905, from De Witt and Live Oak Counties, Texas. Found on cattle, horses, sheep and dogs. Specimen classified by Bureau of Animal Industry, Washington, D. C. This tick was found only in or about ears, usually inside concha, never deep in ear like *R. spinosum*. Usually gathered in clusters, even when few.

Scutum of *A. maculatum*.

It may be readily distinguished from other varieties of the *Amblyomma* by the markings of the scutem. The scutem of female bears antero-laterally two diamonds and postero-laterally two triangular splashes of irridescent silver-bronze, on a ground of a reddish color. These figures seem very regular. The scutem of the male bears silver-bronze markings of symmetrical geometric figures on a reddish ground, the most notable and regular being two imperfect triangles antero-laterally. The markings of the male, however, are subject to considerable variation.

The female *A. maculatum* attains a greater size than any other tick known to the writer, one specimen being $\frac{9}{16}$ inch long by $\frac{13}{32}$ inch broad. Male $\frac{3}{16}$ inch by $\frac{1}{8}$ inch. The rostellum being very long and heavily armed, frequently causes wounds that afford access of screw-worms, resulting in lop-ears ("gotch ears"), because of which the tick is locally called a gotch tick. A considerable number of fatalities is said to occur, resulting from screw-worm infection.

RHIPICEPHALUS SANGUINEUS. — Reported for Texas by writer in 1905. Have found it only on dogs. This tick very closely resembles *Boöphilus annulatus* in general details, examination with a lens being necessary to positively distinguish. Main points of difference are: (1) Stigmata of females are blunt commas. (2) Stigmata of males are elongate commas, lateral anal plates rather small, internal anal plates long, and a tail is sometimes present. (3) Legs of both sexes rather larger and darker red than those of *B. annulatus*. (4) Replete female somewhat smaller than *B. annulatus*. The shape of the stigmata varies somewhat, in one specimen being almost round like that of *B. annulatus*. A number of cattle closely associated with dogs infested with *R. sanguineus* have been examined without finding these ticks.

ARGAS MINIATUS.—The Mexican chicken tick. A paralytic fever has been repeatedly observed among chickens infested with *A. miniatus*. The clinical phenomena point to an infective disease conferring a transcient immunity, and the tick as the agent of transmission. In one infested yard, during 1905, eighty per cent. of chickens introduced from other yards exhibited the paralysis within eight to twelve days after introduction; most recovered, and only a few were subsequently affected, though nothing effective was done to exterminate the ticks and they were numerous throughout the year. Experimental infestation gave negative results.

CIRCULAR NO. 91 of the Bureau of Animal Industry is a preliminary report of "The Life History of the Twisted Wireworm *(Hæmonchus contortus)* of Sheep and Other Ruminants," by B. H. Ransom, B. Sc., A. M., Scientific Assistant in charge of the Zoölogical Laboratory.

ABATTOIR FOR HORSES.—It is reported that the consumption of horse meat at Nuremberg, where a few years ago it was quite insignificant, has now increased so greatly that the facilities for horse slaughtering at the municipal abattoir have become insufficient, and the City Council has been obliged to consider the construction of a new abattoir for horses, the cost of which is estimated at $43,000.

REPORTS OF CASES.

"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations, he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."

DIAPHRAGMATIC HERNIA IN A TWELVE-YEAR-OLD MULE.

By C. A. CARY, B. S., D. V. M., Auburn, Ala.

The mule had been resting for 10 weeks with what appeared like gonitis in the left hind limb, but had been treated for bone spavin and sesamoiditis. During this time it ran in a lot with a few horses, and occasionally had access to a lot where cattle were fed cotton-seed meal and hulls. On two or three occasions it had colic attacks, which yielded to the ordinary domestic remedies of soda, etc. What seemed to be a fourth attack of colic called me to the case on March 23. I found the mule without fever, normal pulse, and suffering from colicky pains, manifest by uneasiness, getting up, lying down, etc. In the left rib region four ribs were fractured and a marked indenture, as often found in cases of osteo-porosis. The lameness history, the broken ribs, and the colic from indigestion, led me to suspect osteo-porosis. The mule was sent to the hospital and was treated for colic and in course of 24 hours seemed to be free of pain and eating grain and hay. The broken ribs being movable and sensitive, I expected pleurisy might develop. On the third day my assistant called me to see the pumping breathing of hydrothorax or pleurisy with effusion. Auscultation and percussion did not indicate that the effusion had risen very high in the thorax. Hence, we waited a few hours and the labored breathing disappeared and respirations became nearly normal. The temperature was then 103 to 105 F., and pulse rapid, 80 per minute. That night the mule died. Post-mortem revealed a rupture of the stomach; quite a quantity of food in abdominal cavity; abdomen full of red serum; peritonitis; liver, spleen and kidneys engorged with blood. Thorax, quite a quantity of red serum, but not as much as was found in abdomen. Pleura was only slightly inflamed. Lungs almost normal. The double colon and cæcum were in the left lung cavity; not strangulated nor inflamed, and contained apparently normal semi-liquid material and no more gas than usual. A piece or fold of the mesentery and omentum had at some previous period passed through an opening between the spleen and stomach and

another opening on the left side of the tendonous portion of the diaphragm and become fixed to the inner surface of a fracture of the 11th rib. The hernial opening in the diaphragm was 2½ inches in diameter, and the opening between the spleen and the stomach was about the same size. The edges of each opening were smooth and entirely healed, showing that they were not recently made.

No doubt the immediate cause of death was the rupture of the stomach.

But how could a twelve-year-old mule do hard dray work up to within ten weeks of its death with such a diaphragmatic hernia?

Possibly it occurred some time during the ten weeks.

I.

II.

Explanation of Plates.

I.—The lower end of the ribs point upward in the picture. *D* is the abdominal surface of diaphragm. *R* lies between enlarged places of two broken ribs that have become united by false, movable union. To the enlarged broken rib at the right of *R* is attached the fold of mesentery and omentum after the fold (*M*) passes through the old hernial opening in the diaphragm. The opening is held open by piece of wood stick placed transversely above the *R*. *M* is the omentum and (chiefly) mesentery fold, which passes through an old opening (*O*) between the stomach (*ST*) and the spleen (*SP*) and then the hernial opening in the left part of the tendonous portion of the diaphragm, and is firmly attached to the enlarged part of the 11th rib that had been fractured and united by false union.

II.—Shows the thorax open; three fractured ribs and double colon and cæcum that passed through the hernial opening in diaphragm into the left lung cavity.

CARCINOMA OF THE MAXILLARY SINUS AND ALVEOLAR PROCESSES IN THE HORSE.*

By L. Van Es., M. D., V. S., Agricultural College, N. D.

During the summer just past, the writer was consulted in regard to a case occurring in a patient of Dr. J. W. Dunham, Fargo, N. D.

The horse, gelding, from fifteen to seventeen years old, had for sometime shown some difficulty in mastication. While this was being observed a more or less diffused swelling appeared over the left maxillary sinus. A small opening was drilled into the sinus by Dr. Dunham, from which escaped a small quantity of a clear limp fluid having the appearance of blood serum. As no pus was to be detected and as none of the molars showed any lesions on their face, it was not deemed justifiable to proceed any further in the matter, and after prescribing daily irrigation with an antiseptic solution the case was kept under observation for several days.

During that time there was an increase and extension of the swelling and when the case was seen by the writer the enlargement had extended well under the zygomatic arch, was more or less œdematous and rather painful on pressure. The left side of the face had a bulging appearance from the eye downward. The left nostril showed a muco purulent discharge which at times was tinged with blood. The sub-maxillary lymphnodes were enlarged, indurated and very tender to the touch.

The opening made into the sinus had not yet healed and a common probe could be introduced without difficulty. Inserting the instrument without any force it seemed to follow a canal leading towards the last molars, which, as indicated by the probe, seemed to be eroded on their roots. When the probe was pushed in with a little more force it readily found its way into the oral cavity, a manipulation followed by bleeding from the parts. After the withdrawal of the probe it was noted that the odor so characteristic of necrotic bone could be detected.

Manual examination of the mouth revealed an ulcerated condition posterior to the last molar. The ulcer seemed to be deep and formed a cavity which was filled with tissue debris and quite a quantity of food stuffs. Another feature of the case was the almost complete atrophy of the masseter muscle, on the side involved, which was probably the result of non use.

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* Presented to Meeting of North Dakota V. M. A., January, 1906.

FIG. 1.

FIG. 2

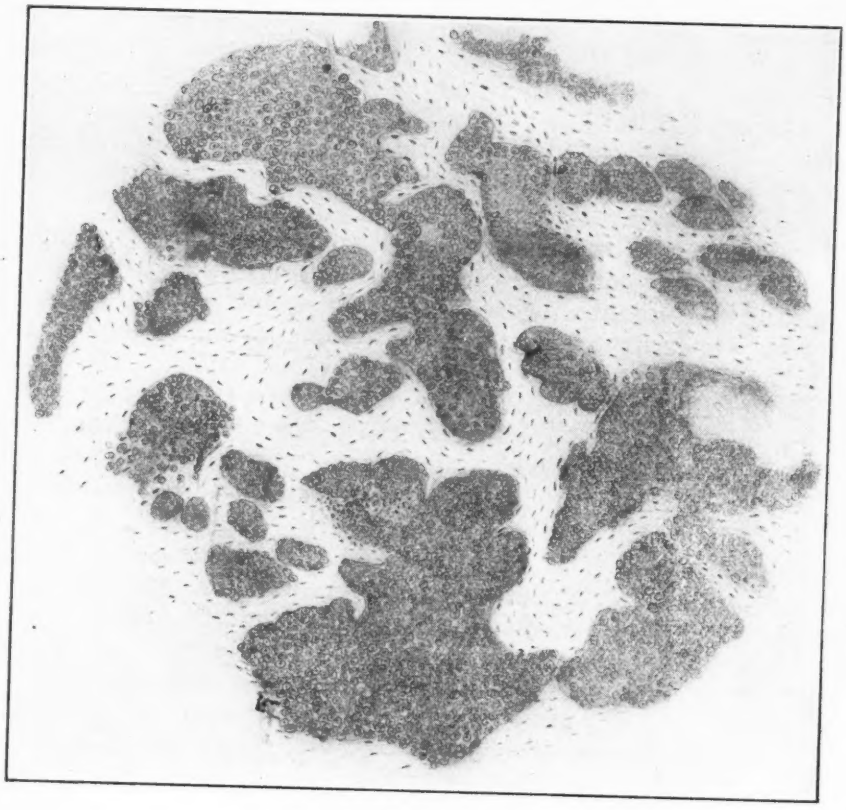

FIG 3.

The general condition of the gelding was not bad, although the attendant informed us that there had been a considerable loss of flesh, apparently due to the difficulty in mastication and swallowing.

Owing to the erosion to the root of the last molar and the evident presence of dead bone, it was recommended that the tooth be removed and any dead bone thoroughly curetted away. This was done on the following day by Dr. Dunham.

The tooth removed was the last molar and the doctor stated that it would not have been difficult to remove three or more teeth on the same side, as they seemed to be implanted into a soft nodular mass with which the greater part of the cavity seemed to be filled. Upon examination of the tooth removed, it was found that some of this tissue was still attached to the molar, and from its appearance and the result of the finding during the operation, malignancy was suspected.

With a view of deciding this point, the tissue was prepared for microscopic examination, which revealed that the growth in question was a typical carcinoma. Consequently the destruction of the animal was advised. This advice was acted upon some two weeks later, and the head turned over to the writer for post-mortem examination.

During the interval the enlargement of the face and subzygomatic region had steadily increased, while the horse itself showed the effects of malnutrition and cachexia.

At the time of the post-mortem it was found that the opening into the sinus had nearly healed. After removal of the skin and soft structures over the involved area, the bony plates of the superior maxillary, lachrymal and malar bones were carefully removed. At some places it was necessary to use the chisel for this purpose, but in others the bones were so softened that they could be readily removed with a knife; in fact, part of the external and the orbital plates of the lachrymal bone had been entirely absorbed, while in some parts of the superior maxillary bone the osseous tissue had been so thoroughly infiltrated by the tumor mass that the two could not be completely separated.

After the removal of the bony coverings, the tumor presented itself as a lobulated, nodular structure filling almost completely the maxillary sinus and reaching into the nasal chamber, without, however, obstructing the air passage. Below it had infiltrated the alveolar processes of the superior maxillary bone to quite an extent. Posteriorly the alveolar

tuberosity is entirely necrotic, while the palatine bone also shares in the erosion. From this region the tumor structure reaches towards the orbital cavity, while further inward the muscular wall of the pharynx was infiltrated and immobilized by it. At one place where the nasal cavity, merges into the pharynx the tumor had actually broken through the mucous membrane and a nodule of the size of a large hazel-nut protruded into the air passage.

Microscopically the cancer proved to be of the glandular type, but otherwise did not present any special features. The stroma is moderately developed, while but few sections show any degenerative changes in the epithelial islands. A higher magnification reveals the presence of numerous cells undergoing division, as shown by the karyokinetic figures representing all the stages of the process.

ERRATIC OR IRREGULAR PARTURIENT PARESIS.*

By Dr. E. A. VAN ANTWERP, Brookfield, Mo.

In choosing this much talked of subject—one that has had papers in untold numbers written about it—I do not expect to bring out or advance any new ideas of the pathology or therapeutics, but simply put before you in as few words as possible my experience with three cases of this disease, which has become a desirable one to handle, thanks to the discovery of the great benefits derived from iodide of potash, then of oxygen, later of sterilized air, and very frequently the latter is used without sterilizing. We no longer dislike to hear a patron say that he has a case of "milk fever"—as it is commonly called—but now we are rather pleased to pit our skill against one of these cases, and if given half a chance can save the "best cow," for the owner will generally tell you it is the best one in the herd. Such were the conditions surrounding the first case I wish to mention.

Case No. 1.—On the morning of July 27, 1904, I received a call to come and see a cow that could not get up; had been found down about 7 A. M. It was nearly 9 o'clock before I saw her. I found a very nice specimen of native or cross-bred cow; she was unable to get upon her feet (as I made no minutes of the case I cannot say about her pulse, respiration, etc., as they have passed my recollection). She held her head free from the

* Read before the Missouri Valley Veterinary Association, February, 1906.

ground and swallowed a small dose of stimulants. Later there were administered a saline purge and nerve stimulant, with ammoniacal liniment to the spine. I left instructions for her care, especially to prevent her getting into a lateral decubitus, and promised to call again in a couple of hours. Upon returning, I found the cow had been allowed to get away from the support and was lying at full length upon her side, with quite a quantity of food at the nostrils, which had regurgitated from stomach. Her eyes were nearly closed, profuse lachrymation, no reflex sensibility; when rolled upon the sternum she would toss her head about, and when resting it would be placed at her side in the characteristic position of a case of paresis. Upon further inquiry I learned that the cow had been fresh four weeks; there was an entire absence of milk in the udder at this time, and she had given very little the night before. In fact, at time of second call she presented many of the symptoms of a case of parturient paresis, but for the four weeks past fresh had me guessing. Perhaps these conditions would have been very plain to many of you, but I have failed to see any description of a case so late after the period of calving.

I hurried back to the office, got the necessary boiled water, syringe, etc., gave cow my regular treatment for parturient paresis and was very much pleased to see an improvement in an hour and felt I was doing all right. After waiting about two hours from first injection I again inflated the udder, and, being obliged to attend to some other calls, gave rigid instructions as to keeping cow in proper position and left my assistant to look after them. I returned in about three hours to find the cow up and in a fair way to make a complete recovery.

Case No. 2.—On April 8, 1905, I received a 'phone call from a friend south of town. His Jersey cow was sick and acted somewhat weak in hind parts; owner believed she had been hurt. I asked some questions, among others if the cow was fresh, and was told she would not be for two months. I arrived at the farm and found a grade Jersey cow in a box stall. The casual observer would observe nothing wrong. I was informed that the cow left the stable that morning to all appearances perfectly well. When driven up at night she appeared weak in her hind legs, stumbled and nearly fell when going in the barn. When caused to move she would stagger about and almost fall down. After such an exertion her pulse would become accelerated to nearly an imperceptible degree, her respiration become hurried, but when left to herself would soon be

nearly normal. While the expression of her face with the drooping ears, half closed eyes, head carried low, showed the action and look of a cow coming down with parturient paresis, I could find no indications of an injury. I learned that she gave no milk that night, the usual amount being about three or four quarts to a milking. I administered a purgative and gave stimulant. About an hour later I determined to try treatment of the udder. I obtained a household syringe, cleansed the same, disinfected the udder, got all the articles clean and ready by disinfection, then inflated the udder with sterilized air, and repeated the same in a couple of hours. About this time I could see a little improvement in the cow and at midnight she was decidedly better. In the morning the owner reported the cow apparently as well as usual with absence of milk, of which she did return to her former amount.

Case No. 3.—On the evening of May 18, 1905, in answering a 'phone call, a lady's voice told me to hurry over and see Uncle Jack's cow. She said the cow was down and couldn't get up, and she believed it would be dead before I could get there. I had some trouble in calming the lady enough to find out where I would find Uncle Jack and his cow. I proceeded to answer the call, and found a nice Jersey cow down and making repeated efforts to get on her feet. She would rise part way and then fall broadside unless supported upon her sternum. When supported up in latter position, she would toss her head about and let fall at her side, assuming characteristic position of parturient paresis. Her eyes were amaurotic, no reflex action, sterterous breathing, air also being passed through mouth, causing cheeks to puff in and out with each respiration. The cow was somewhat bloated, which made it quite necessary to keep her upon her sternum. I learned from owner that the cow had been fresh about four months, that she did not have any milk in her udder that morning, her usual amount being about 8 quarts. After a careful examination, I decided it was a case of belated parturient paresis, and believing it unsafe to give medicine per orum, I injected a solution of potassium iodide into the udder.

This treatment was given again at 7.30 P. M. Some improvement was observed. She became more quiet. At 10.30 the treatment was repeated. At midnight, thinking patient might be chilly, I picked up an old piece of carpet to throw over her, but it had hardly touched her back before she made a successful effort to regain her feet, and after a little stumbling about walked into the barn.

This is a review of these cases to the best of my recollection. I called them erratic parturient paresis, they being so far out of the usual time. These are the only cases of this kind I have observed in 20 years of practice and several years previous spent upon a dairy farm.

One would not have hesitated in making a diagnosis of parturient paresis had these symptoms appeared at the usual time.

I based my diagnosis on effect of treatment to the udder, which produced favorable changes in the condition of the patient in an hour or two. If they were not parturient paresis, what were they?

CARTILAGINOUS QUITTOR.*

By Dr. W. WARREN, Sedalia, Mo.

On October 23, 1905, a gentleman brought in a mare that was extremely lame, and asked me to take a look at her and see if I thought anything could be done for her. The horse was an ordinary road mare, weighing about 1100 pounds, 14 years old. He gave the history of the case as follows: In July she cut her right front foot on a barb wire across the outside quarter at the heel, making a deep, ugly looking wound which extended across the heel through the coronary band and about half an inch into the hoof. The wound at first apparently healed, as readily as cuts of this nature usually do, but in a short time it broke out again and then showed a tendency not to heal. The mare had been so lame she would not use the foot, only just to touch the toe to the ground. Upon examination I found a fistula just above the middle of the upper margin of the lateral cartilage on the outside of the foot, which by probing I found to extend down into the foot inside the cartilage, and could feel the bone exposed a little. From the direction of the fistula I judged the necrosis on the os pedis was very near the pedal joint; there was some fœtor to the discharge, which indicated bone necrosis. I advised an operation, to which the owner consented. I decided to operate next day. The foot was placed in a poultice for 24 hours to soften the horny structures. The following day I called Dr. Bradley to assist me in the operation. We confined the mare on her left side by means of casting harness. The diseased foot was extended by means of a stick, and traps to fasten it so as to keep it as still as possible, and a solution of cocaine was injected over the plantar nerves and the parts cleansed with strong for-

* Read before a Meeting of the Missouri Valley Veterinary Association, February, 1906

malin solution and soap. The hoof was rasped down as thin as possible, then a tourniquet applied above the fetlock, then removed the wall of the hoof from the heel around to within about an inch of the centre of the toe, made an incision through the sensitive lamina along the base of the lateral cartilage, then dissected the cartilage from the sensitive lamina, made an incision through the cartilage and dissected it loose from the inner structures of the foot. Upon removal of the cartilage, I found a sinus which contained about half an ounce of pus, cleansed this thoroughly, then curetted it thoroughly. I found a necrotic tract extending upward and forward in the coronary band. This was curetted, a dressing of iodoform and acetanilid applied, covered with absorbent cotton and bandages. I removed the ropes from the mare; she seemed to be suffering considerably from shock and did not seem inclined to get up. A stimulant was administered and the animal lay about an hour, then I spoke to her, and she got up and seemed to feel pretty well. I placed her in a box stall, gave some water and small feed of oats, which she ate. I renewed this dressing in 3 days, then again in 3 days, at the end of which time it was found that all the necrotic tissue had not been removed. Another tract seemed to be present.

A dark spot was found, which was swollen above the surrounding tissue. I took some chloride of zinc and applied to this point and pressed it into the tissue as much as I could, then applied dressing as before. In two days I redressed it and found it healing nicely. After that I dressed it once a week for several weeks. It did not appear to be as sore from the time I dressed it the second time as it was before the operation. Within two weeks after the operation she put her entire weight on the foot, and I think she will go as sound as she did before she was injured.

I would not have dressed this quite as often had I not wanted to watch the place that I did not get thoroughly curetted out at first. I did not report this case to teach any one else anything especially, but to show that it is an operation that can be done without an operating table, etc. I heard a party remark here last fall at one of our conventions when Dr. Brown was operating on a foot that it was not necessary to watch him, as we could not do such operations in the country with the ground for an operating table. I think the principal thing is to go after it the best way you can with what you have to work with and use every precaution possible for preventing

septic material entering the wound during the operation, then thoroughly irrigating the wound with a strong antiseptic solution of some kind before applying the dressing. By doing this I think we can obtain good results many times when we feel reluctant to undertake the task.

A BAD CASE OF LAMENESS.*

By C. J. HECKARD, Wheatland, Iowa.

On June 24 last, I was called by a farmer, John Miller, living north of Calamus, to see a lame mare. On examination, I found that there was a small opening at the heel of the right front foot, and by probing found that it extended inward and upward about 1½ inches. There was a little pus escaping and mare was quite lame. I took probe-pointed bistoury and enlarged opening and injected a solution of carbolic acid, and then placed a small piece of sulphate of copper in edges to keep them from healing too soon, and bandaged, advising the owner to remove same in about 12 hours, and then syringe it out with warm water and inject some creolin solution. Also told him to attend to it in this way twice a day.

On July 11 he 'phoned me and said that it did fine for a while and lameness was just about gone and it was all healed up, but now it had broke again and mare was very lame, and for me to come over again and see her. So I drove over and found her in bad shape.

He told me that the leg had been swollen very badly, and was very hot from the foot up above the knee, and that a neighbor woman came over and saw it and told him that a good cow-manure poultice would be the last and only resort. So he and the hired man took a pants leg and started for the cow barn, she following. She watched them filling the bag far a while, then becoming disgusted by their slow work, took it from them and proceeded to fill it with her hands. After she finished filling it she took it to the barn, and having them hold the horse, slipped it on the leg. This was left on about 24 hours, and when removed found that it had broken in four places, one anterior above ankle, two posterior above and below ankle, and one on outside just above ankle.

It seemed that the entire region was rotten. I injected a solution of creolin through all the openings, which connected, and then covered the entire leg from foot up with Antiphlogis-

* Presented to the Iowa Veterinary Association, Jan., 1906

tine and bandaged, advising owner to change it every 24 hours for three or four days, and at each time to inject parts out clean with warm water, and then inject white lotion.

A few days later he 'phoned me again and said that that morning when he removed the bandage he saw something loose protruding out of the posterior opening above the ankle, so took hold of it and lifted it out. He wondered what it was, so I told him that I thought it was one of the flexor tendons, which it proved to be on later examination. [Specimen was shown.] He also stated that the mare was very lame, in fact she couldn't put any weight on it at all. I told him that if it was a tendon she would possibly never recover from the lameness. Well, he said he didn't care if she would only live and be able to get around, for she was a good broodmare. I kept sending him medicine, such as creolin, the white lotion, bichloride solution, adding a little carmine to color. Dry dressings, such as calomel, boric acid and iodoform. A salve composed of petrolatum and bismuth, acetanilid and naphthol. These were used for about six or eight weeks, and finally it healed up.

The mare is still somewhat lame, for she hasn't control of her foot, due to the loss of this tendon, and she walks mostly on her heel with the toe raised.

TYMPANY IN A BULL DUE TO TUMORS.*

By C. E. Baxter, V. S., Oakland, Iowa.

The subject was a five-year-old registered Hereford bull, weighing about 1,500 pounds, in ordinary condition. Was driven in from pasture October 30th, considerably bloated.

Being called to prescribe, and not thinking it necessary to see the patient, I sent a drench, consisting of salicylic acid, oil terebinth., ether sulph., oil lini, with instructions to call in four or five hours if bloat had not subsided. The next evening was called and informed that the bloat of the day before had gone down during the night, and the patient turned on pasture in morning (consisting of second-growth timothy and clover) apparently all right, but was found about 4 o'clock badly bloated. Rumination suspended and a grunt following each expiration. Prescribed salicylic acid, eth. sulph., sodii chloride, sodii sulph., and fluid extract nux vomica, as drench, repeated in eight hours. Instructed them to keep him off the pasture, giving him grain

* Presented to the Iowa Veterinary Association, January, 1906.

and dry clover hay. The next day the bloat did not return, but on the day following he was as bad as ever.

This remittent tympany continued (notwithstanding numerous changes in diet and the administration of antacids, nerve tonics, antiferments and intestinal antiseptics) for about three weeks, during which time he seemed to enjoy good health, looked bright out of his eyes, ate, ruminated (except when severely bloated), temperature, pulse and heart sounds normal, but falling off in flesh, and lacking in vitality.

I came to the conclusion that there might be some foreign body in the rumen, and consequently advised rumenotomy, which was performed November 21st.

The rumen being very much distended at the time of the operation, the trocar was introduced and flatus removed. The rumen was then opened and two half-bushel measures of contents removed This ingesta seemed a little on the dry order if anything, with no offensive odor. The walls of the rumer appeared rather dry, probably due to long distention from gas es, and peristaltic action entirely lacking.

Introducing two gallons of normal saline solution at body temperature, the remaining contents of the rumen were thoroughly mixed in search of some foreign body, particular attention being given to the reticulum, but no such intruder could be found. The contents of the omasum seemed to be in a normal condition. I now introduced a saline carthartic through the opening, consisting of sodii chloride, sodii sulph., fluid extract nux vomica, tincture zinziber, and completed the operation, using heavy catgut ligatures.

Concluding the tympany due to paresis and possibly some catarrhal condition of the rumen, the patient was kept in barn with exercise in lot during day, fed on bran mashes, clover hay and oats.

Prescribed strychnine sulph., ℥ i ; fl. ex. gentian rad., ℥ viij ; fl. ex. hydrastis, ℥ ij ; glycerine, ℥ iv ; spts. vini rec., ℥ ij. Sig. One ounce in a little water twice a day.

The first two days following the operation, he did not care to eat much, after which he ate and drank well ; temperature ranging from 102 to 103½.

On November 28th he was noticed to be somewhat tympanitic, and on the day following very much so, gas escaping between stitches, which had been loosened by excessive tension. Removing a stitch I forced an opening into rumen, allowing the gases to escape freely, and tightened the stitches above. As

soon as relieved he went to eating. When gases accumulated they could easily escape through the side.

He continued to eat, although not as heartily as before, kept a bright eye, but gradually failing in flesh, getting very weak, until December 16th he was destroyed.

The autopsy disclosed a collection of what seemed to be fibrous tumors, their aggregate size being about that of a four-quart cup and located in the posterior mediastinum.

The abdominal viscera seemed to be in normal condition except that it presented a rather livid appearance throughout.

I have just been informed by the previous owner that this animal had two or three attacks of tympany during the summer, supposedly due to clover.

USE OF ESERINE IN CHOKE OF DOG.

By MARK WHITE, V. M. D., Denver, Colo.

Pomeranian dog, with cervical choke, due to a bone. The dog had been choked fully fifteen hours when I was called. I could feel the foreign body perfectly in the upper third of the œsophagus. The owner stated that they felt the foreign body the day before, and it had not moved from where they first felt it, which demonstrated that the bone did not have a tendency to move downward.

I decided to inject eserine subcutaneously. To my delight, in less than an hour the bone had moved down and the dog appeared perfectly comfortable.

After injecting the eserine the dog started to swallow repeatedly. The action of the drug is experienced in two ways: that is, it overcomes the spasmodic contraction of the œsophagus upon the foreign body and at the same time stimulates peristalsis.

RAW MEAT AS A FOOD FOR DOGS.

By MARK WHITE, V. M. D., Denver, Colo.

There is strong prejudice against feeding raw meat to dogs. Some veterinarians recommend raw meat, others cooked. Personally I believe raw meat the natural food for dogs and cats, and recommend it to my clients freely, and have never regretted so doing. City dogs which eat raw meat are not troubled with constipation, etc.

I was called to kill a cocker spaniel dog, sixteen years old. I was interested to know the food this dog had received in order to live to such a ripe old age. Owner stated his food had been *raw meat*, and that the dog had lived in the city of Denver all its life and never had been sick. Practically every dog in Denver has to have the distemper, and since this dog escaped it, it leads me to believe the raw meat as a food increased his resisting powers against disease.

THE HORSELESS AGE seems to be a long way off, judging from a statement in the New York *Herald* of May 6, in a brief review of the carriage trade. The total production of horse-drawn vehicles in the United States last year was 1,600,000, as against 25,000 automobiles, while the number of horses in the country was 17,000,000. [The total number of horses as submitted to Congress recently is 18,718,578.—(R. R. B.)] Records of no other year equal these figures, but it is estimated that they will be surpassed by those of 1906. Half a dozen Western States now have carriage building plants that will turn out upward of 25,000 vehicles each; at least two concerns will produce more than 50,000 each, while the great Studebaker plant, at South Bend, Ind., will probably build 75,000 horse-drawn vehicles for business and pleasure to supply its retailing branches throughout the world.

A BRIGHT LOOKING MONSTROSITY.—The accompanying photograph was forwarded to the REVIEW, with the compliments of Guy M. Richards, V.S., Beachview Farm, Oak Harbor, Washington. With no other explanation, the reader is permitted to draw his own conclusions from the splendid photograph, which shows a fifth leg growing from the left flank, this being less well developed than any of the others. Apparently this supernumerary extremity prevents the normal-appearing left hind leg from performing its function in locomotion, though the little bovine does not seem to be depressed over its affliction.

EXTRACTS FROM EXCHANGES.

GERMAN REVIEW.

By J. P. O'Leary, M. D V., Bureau of Animal Industry, Buffalo, N. Y.

Concerning the Turnip Flavor of Milk and Butter.—It is known that the turnip flavor acquired by milk and butter in the case of cows fed largely upon turnips is due to the bacterial contamination of the milk during the process of milking and not by the transmission of taste into the milk by way of the digestive apparatus and the blood. According to this theory, the taste could be obviated by cooking the milk and destroying the bacteria. In a recent article published by Dr. Schaller, of Augsburg, in the weekly *Journal of the Agricultural Society of the Grand Duchy of Baden*, he states, that cooking the milk for a short time is not sufficient to kill the bacteria, but rather helps to intensify the turnip flavor. This fact is explained as follows: that the turnip flavoring bacteria produce spores which resist cooking to a marked degree, while the lactic acid bacteria are not destroyed in the process of cooking, and as a result of their destruction conditions become favorable for the development of the turnip flavor bacteria. In uncooked milk there is a struggle between the bacteria which sets free acid and those which cause this flavor, in which the former limit the latter in their development. As is known, acid is directly harmful for most bacteria. On this account also it is possible to produce butter of full value from cream which is tainted with turnip flavor if it is pasteurized at a high temperature and then subjected to slight artificial acidification.—*(Deutsche Landwirtsch. Tierzucht, 1905, No. 9.)*

Treatment of Blood in the Milk (the So-called Bloody Milk of Cows) Through an Infusion of Air by Means of the Air Filter Apparatus After Ewers-Warren [*K. Meuch*].—M. determined to report two cases attended with favorable results. *Case I.*—Farmer K. in G. requested him to treat one of his cows, which soon after calving gave red milk and continued to do so for about fourteen days, which he could not and did not wish to use for household purposes. He ordered the animal to be kept in a quiet place, and to use caution in milking out the udder and to use a salve to hasten reabsorption of the blood. He visited the owner after three days; the

latter told him the cow still continued to give bloody milk. M. drew some milk and became convinced that it contained bloody streaks and even some thrombi. The idea suggested itself to him that an infusion of air would cause intense compression on the injured bloodvessels, and eventually close them, and thus stop the hæmorrhage. He proceeded to treat as follows: He had the udder completely milked dry and injected air into the teats by means of the Ewers air filter, so that the udder was well filled with air. The animal was walked about for a short time, since it showed symptoms of uneasiness. He ordered then that the animal be allowed to rest until next day, when the udder was milked dry, asking the owner to inform him of the result. Two days later the owner told M. that the morning following the treatment the cow did not show the least trace of blood in the milk. About one week later M. was informed that the cow was completely cured, and that during the interval no more bloody milk was secreted. *Case II.*—Farmer G. in G. asked M. to treat a cow which gave bloody milk. He again convinced himself of the presence of blood in the milk; he did not employ any other line of treatment, save the above. He had the same successful result, so that the cow was considered cured after a single infusion of air.—*(Berliner Tierärztliche Wochenschrift.)*

CONCERNING THE DANGER FROM THE USE OF MILK AND THE MEANS FOR ITS PREVENTION [*Dr. J Sobelsohn*].—Contamination of milk may occur through pathogenic or non-pathogenic bacteria. Many diseases of the udder arise from bacterial infection; as a result the organisms already in the udder contaminate the milk. There are numerous indisputable instances recorded in which human subjects have become ill from the use of milk drawn from the diseased udders of cows. Also numerous cases of primary intestinal tuberculosis in man can be traced back with certainty to the use of milk containing tubercle bacilli, and it has been still further proved that cow-pox, foot-and-mouth disease, anthrax, and probably also rabies are communicable to man through the use of milk. The latter in any case only when a lesion of the mucous membrane of the human digestive tract exists. Metallic and organic poisons are also secreted with milk which under circumstances may become harmful to the user. Finally it is well known that newly drawn milk forms a suitable medium for the spores of human infectious diseases. This has been observed frequently in typhus, diphtheria and scarlet fever, and it was recently affirmed also of syphilis. As regards the prevention of these dangers, the author is of the opinion

that the public which consumes the milk must show more interest in hygienic dairying and must also be made acquainted with the handling of milk under different conditions. In support of the Austrian food law the author demands that those persons commissioned for the control of the sale of foods, especially that of milk, should be better educated than heretofore, and if the law prescribes in Par. 24 that the production, preparation, and storage of foods is to be controlled, that of milk should be supervised by veterinarians. In connection with this, the author quoted the respective resolution of the 8th International Congress for Hygiene and Demography held in Budapest, 1905, and demanded at the conclusion an obligatory veterinary milk inspection.—*(Tier. Zentralblatt, 1905, No. 11–15.)*

AN EXPLANATION OF PLACENTOPHAGY [*P. R. Lafitte*].—The desire to eat the afterbirth has been observed in all classes of animals. Witkowsky reports that among the wild tribes of Australia the mother eats the newly born child in case of extreme hunger, and when she has given birth to twins she eats one child in order to be better able to nourish the survivor. Buffon, Reclus, Rippert and others have observed similar instances in Uraguay, Tasmania, and so on. This instinctive habit of eating the placenta in the case of animals is not easily explained. Nevertheless, it is possible that by eating the placenta the secretion of milk is increased. According to the opinion of some doctors, the placenta must possess some galactogenic properties, and they prescribed a macerated animal placenta for poorly nourishing mothers. The adherents of this opotherapeutical medication appeal to the works of Letulle and Mathorn—Larrier, who has scientifically demonstrated that the placenta belongs in the series of organs with internal secretions. This secreted product appears under the microscope in the form of plasmodia-like globules, which are found during pregnancy in the maternal blood and are resorbed more quickly during the period of labor, giving rise to a more rapid secretion of milk. Lafitte is of the opinion that veterinarians ought to be called upon to coöperate in the elucidation of this question. He made experiments with a sow and a bitch; both were poor milk animals, not capable of nourishing their young. He gave them three tablespoonfuls daily of an extract from the placenta of a sheep and already from the third day the milk secretion was remarkably better. However, fresh still-intact placenta must be used, which may be had frequently and in sufficient quantities in the slaughter-houses. The placenta expelled after birth

is utterly useless. — *(Berliner Tierärztliche Wochenschrift.)*

GALLSTONES IN A HORSE [*B. Lewin*].—L. reports the case of a horse suffering from intermittent colic, and consequently was treated with aloes and eserine-pilocarpine injections, by means of which small quantities of fæces were passed. On the third day, the visible mucous membranes were stained a dirty yellowish-red. Respiration 24, temperature 39.9 C. Auscultation, a friction sound was audible over the lower third of the left lung and sensitiveness to pressure on the thoracic wall at the same place. Diagnosis, pleuritis. On the twelfth day of the disease the patient laid down a great deal and looked around frequently; the animal showed great pain, with respiration 32, pulse 72, temperature 40 C. Next day the horse died. Post-mortem: Circumscribed peritonitis; spleen partly grown to the left lobe of the liver and the peritoneum; left lobe of the liver attached to the diaphragm. All the bile ducts of the greatly enlarged liver were dilated; the two principal ducts enlarged to about the size of a fist and containing pulpy masses of food and many small yellowish-brown stones varying in size from a mustard seed to a hazel nut. Small and large intestines had borne the same contents. The small intestine about its middle contained a stone weighing 148 grammes. In the region of the head of the pancreas there was a diverticulum about the size of a fist at the S forming bend of the duodenum. It is worthy of note in the present case that the large number of gall stones (about 500) had never previously caused recognizable digestive disturbances; further, that jaundice was present at the beginning of the disease only; likewise the fact that the local peritonitis had led to the false diagnosis of pleuritis.—*(Zeitschr. fur Veterinärk, 17 Jahr, 2 Heft.)*

TWO CASES OF ABDOMINAL PULSATION IN HORSES [*Dr. Zurn*].—Concerning the origin of abdominal pulsations there are varied opinions. Haubner-Siedamgrotzki hold that the phrenic nerve which passes near the heart is excited by the contractions of that organ, thereby causing a periodical diaphragmatic cramp. According to Friedberger and Fröhner, catarrhal and inflammatory conditions of the stomach and intestines, either reflexly or through an extension of the inflammation, is a not infrequent cause of diaphragmatic cramp. Malkmus treats it as a transitory condition, which is to be taken as a neurosis of the diaphragm. Dupas is of opinion that it is the result of excessive exertion of the diaphragmatic muscles, in which an abnormal quantity of lactic acid forms, which either directly

causes an abnormal irritation of the diaphragmatic nerves or the muscle fibres directly. Zurn describes two cases of abdominal pulsation (chorea of the diaphragm) in horses sent to him for treatment of colic or abnormal decomposition in the stomach. The first case showed abdominal pulsation with contraction of the thorax and trembling of the whole body, especially the hind quarters. The symptoms occurred on the average 40 times per minute at regular intervals, but perfectly asynchronous with the pulse wave and respiration. In the second case the abdominal pulsations were 72 per minute, synchronous with the heart beat. Exterior symptoms: a violent trembling of the whole trunk, which occasioned convulsive contractions of the thorax in the subcostal region. Each pulsation was accompanied with a peculiar sound which was audible at some distance from the horse. In both cases recovery ensued. The pulsations lasted only a few hours. Zurn ascribes the first case as according to the Malkmus theory. The second case coincides with the theory of Haubner-Siedamgrotzki, because the pulsations were synchronous with the heart action.—*(Deutsche für. Wochenschrift, 1905, No. 3.)*

FRENCH REVIEW.

By Prof. A. LIAUTARD, M. D., V. M.

A CURATIVE TREATMENT FOR TETANUS [*J. Crison*].—Many practitioners have recorded cases of recovery in declared tetanus, with antitetanic serum in large doses, combined with bromides and other sedatives of the nervous system. Many have also pretended to have similar results with expectation. Notwithstanding these successes, there have been so many failures that one may say that the practical and economical treatment of tetanus has not yet been found. Basing himself upon the observed fact that when one bleeds a tetanic animal to death it is observed that as the escape of blood advances a complete relaxation of the muscular system takes place; and, again, as the bacillus of Nicolaier acts by its toxines, which, mixed with the blood, go and infect the nervous system, the author has asked himself, if by removing a certain quantity of toxines by bleeding, the chances of recovery would not be increased? He has tried it in two cases, taking away ten quarts the first day, ten on the third, and combining with this bromide of potassium

in 40-gramme doses. Marked improvement was noticed on the fifth day. A slight relapse occurred on the thirteenth day, when six more quarts of blood were taken away. From that day convalescence set in and was followed by rapid recovery.—*(Journal de Zoötechnie.)*

A CASE OF CHOREA IN A COLT [*Mr. Cabaret*].—May 3 last the author was called to visit a colt, born but a few days. Black in color, like its dam, a powerful Percheron mare, he was unable to stand without help. When up, he was taken with muscular tremblings and was continually jumping with his hind quarters. Its movements were queer indeed: the hind feet were first slightly raised from the ground, and then, the contractions increasing more and more, the feet were raised 10 or 15 centimetres high. After five or ten minutes the colt would fall. These contractions could be stopped by pressing heavily on the croup. The animal was put under bromide of potassium, nux vomica, and belladonna. This did not succeed, and was changed for laxatives and quinine. After a few days the animal seemed to answer to the treatment and began to improve. Convalescence was very slow, but it was not long before the little fellow seemed to be in good health. Unfortunately, while suffering with its choreiform symptoms it had an inguinal hernia, but if it recovers entirely from chorea it is hoped that the hernia may also disappear as soon as the abdominal wall has regained its normal size. It is a known fact that inguinal hernias of young animals get well spontaneously without other treatment than cold douches.—*(Record de Médecine Vétérinaire.)*

BACILLAR SUPPURATION IN A MARE [*J. Cuillé*].—Under this title the author records the history of a case due to a bacillus, which he has found impossible to classify. The disease manifested itself first by symptoms of strangles, with abscess in the throat, viz.: tumefaction, irregular and bosselated, and here and there fluctuation. The animal is in poor condition—lean, coat staring. Nothing wrong in the lungs or intestines; temperature normal; no cough; no nasal discharge. After a few days the abscesses are well formed, and when opened a little pus escapes. The pus is creamy; spread on a glass slide, it presents a great number of granulations of various sizes, not calcareous, and under the microscope are seen composed of long bacilli, coloring well with various aniline colors and taking the Gram. After a month not much change; new abscesses are formed; some appear at the point of the sternum and back of the withers. Two months and a half later improvement be-

comes manifest and finally after four months the abscesses cease to reappear, general condition is gaining, and the animal is returned to its owner. Cultures made with the pus show no streptococci nor micrococci, nor any appearance of the bacilli observed in the granulations of the pus. However, cultures in vacuum succeeded. On peptone, on liquid serum, glycerinated or glucosed bouillons, Martin bouillon, etc., give more or less results. The bacillus is not pathogenous for the guinea-pig or for the horse. The disease that affected the subject of this case resembles no other disease described; it may resemble somewhat actinomycosis, but the specific characters of the threads of pus and the inefficacy of the treatment by iodide of potassium exclude the idea.—*(Revue Vétérinaire.)*

LYMPHOSARCOMA OF THE ANTERIOR MEDIASTINUM IN A COW—SYMPTOMATIC ANALOGY WITH TRAUMATIC PERICARDITIS [*Profs. Mathis and Ball*].—This animal was 13 years old; her history is that she has coughed for some time; that she has been subject to repeated attacks of tympanites; that sometimes she has diarrhœa, and lately she presents at the dewlap an œdema which has increased little by little and spread over the sternal region. The animal has lost considerable flesh, and the veterinarian in attendance thinks she has traumatic pericarditis, and advises slaughtering. She is taken to the clinic of the Toulouse School, when she presents the following condition: General aspect not bad; while standing the front legs are kept a little apart, head and neck extended. If the animal is made to walk she does it slowly, with hesitation, and quickly gets out of breath. Appetite is normal, rumination regular; udder flabby and dry; cow is five months pregnant; respiration calm before eating, but becomes more frequent after the meal, and much accelerated if she is made to walk. The animal has at rare intervals a dry, short cough. Pulse difficult to take on the facial artery—75 or 80; cannot be felt at the tail. Temperature normal. The swelling at the dewlap is enormous, extending back as far as the umbilicus. It is hard and painless. Peripheric veins are very much dilated; there is no venous pulse. The beatings of the heart cannot be felt with the hand; percussion of the chest reveals horizontal dullness in the lower third on both sides at an even height; auscultation detects respiratory murmur all over, with here and there moist râles. The heart is not heard—to the left, or right, or in front. Catheter introduced into the œsophagus detects difficult progression as soon as it enters the chest; it seems as if the instrument touched

a solid membrane. However, this is not constant, as sometimes the catheter can pass without trouble. Rectal exploration reveals nothing. Tuberculin test is negative. Diagnosis of traumatic pericarditis is entertained, and after some time of observation the animal is killed. At the post-mortem, besides extensive lesions of the lymphatic glands of the fore part of the trunk, and a small quantity of exudate in the thoracic cavity, it is found that the anterior mediastinum is occupied by an enormous tumor, spreading over the right and left costal regions, as well as all over the surface of the pericardium, enveloping the heart as a neoplastic cuirass, which in some spots is six centimetres thick. The lympho-sarcomatous nature of the growth was characteristic.—*(Journal de Zoötechnie.)*

A CASE OF RECOVERY FROM ARTHRITIS OF THE FETLOCK [*MM. Le Fue and Grapen*].—The record of a serious injury treated by injection into the wound of ointment of biniodide of mercury, 1-8, mixed with the same quantity of oil; treatment already recommended by other veterinarians, and which on this occasion has given excellent results—far superior, say the authors, to continued irrigation, which with them has never been successful. A horse, harnessed to an ambulance to carry disabled animals, runs away, cuts both of his knees and his hind fetlocks. He finishes his night work. The next day has high fever, and the right fetlock—open, and from which purulent synovia escapes—is much swollen. Of course, the animal is on three legs. The treatment is applied: injection of biniodide as mentioned into the joint, after careful washing and disinfection with Van Swieten solution. The joint is wrapped in wadding dressing. No change next day. The dressing is removed, and another injection given, and dressed as before. This dressing is left in place for about two weeks. At this time the animal rests his foot upon the ground; he has no fever, and his condition is improved. Dressing is taken off; wound cleansed, synovial discharge considerably reduced. After disinfection with solution of permanganate of potassium a third injection of biniodide and oil is made, and a wadding dressing applied. The improvement continues, and a month after the accident the animal resumes his work. The fetlock is somewhat swollen, but there is not the slightest lameness.—*(Revue Generale de Médecine Vétérinaire.)*

A CURIOUS CASE OF VOLVULUS [*M. Rousselol*].—This animal was ten years old; he was taken sick in the morning while in the stable, and from the start the colics which he had assumed

a very severe character. He was in great pain; his face contracted; he constantly scraped the floor with his front feet; walked in a circle; dropped on his hind quarters, and finally threw himself violently upon the floor, where he remained exhausted for a while, to get up and renew the same manifestations. Treatment of blood-letting, sinapisms to the abdomen, opiates, etc., brought but very slight and temporary improvement. Soon the colics returned. Pilocarpine and eserine had but little effect. Death took place during the night. On opening the abdominal cavity a loop of the small intestine, three metres long, appeared all gangrenous. A strangulation had taken place. The knot which caused it was formed by a production, kind of appendix in *cul-de-sac*, 30 centimetres long, a little smaller than the intestine itself in diameter, and grafted on the convex border of the intestine and on one extremity of the gangrenous portion, with which it is continuous and into which it opens near the ilio-cæcal valve, without contraction in its size. The contents of this *cul-de-sac* consisted of a few grains of oats. Its structure was that of the small intestine. The other parts of the digestive tract were more or less congested. What was that appendix? Perhaps a diverticulum of Meckel, answers Prof. Petit.—*(Bulletin Societe Centrale.)*

Facial Hemiplegia in Cattle [*H. Dutrey*].—Quite frequent in horses, this affection is rather rare in bovines, and its manifestations differ from those of equines. The following case shows it. A five-year-old steer is ailing, keeps lying down, and while ruminating leaves small quantities of food drop from the mouth. Nothing else is observed. Two days later, the condition is more serious. While ruminating the food drops in large quantities, the appetite is bad, fæces hard, mouldy and coated. Temperature 38°. C. Right superior eyelid is drooping, membrana nictitans covers greater part of globe, right ear hanging low, right commissure permits saliva to escape. The two profiles of the head are no longer symmetrical. There is evidently paralysis of the right side of the face. Treatment consists of purgatives, strychnine, and frictions over the face with nux vomica ointment. Very little change is noticed at the beginning of the treatment. After a week the animal begins to improve, and soon is able to resume work. Traumatism is considered one of the causes of this affection. Probably it was in this case also.

The animal was driven with a strap rolled around the base of the right ear, and it is likely that by its too severe and repeated

action the nervous lesion was started.—*(Revue Vétérinaire).*

TREATMENT OF DOG DISTEMPER WITH PHYSIOLOGICAL SERUM [*M. Parent*].—Eight grammes of chloride of sodium in solution in one litre of distilled water forms the compound known as physiological serum. To a Gordon setter, two years old, suffering from a severe attack of distemper (nasal discharge, difficult respiration, mucous râles, crepitation in the lungs, dullness on percussion, labial breathing, elevated temperature, etc.), all treatment seems of no avail. 30 c.c. of the serum are injected on the sides of the chest. Next day animal less depressed. Another similar injection; improvement is noticeable—labial breathing is gone, temperature lower, animal takes some milk, auscultation more satisfactory. The injections are continued. In four [? R. R. B.] days recovery is complete. An Irish setter, 18 months old, affected in the same manner, received the same treatment, and recovered in six days.—*(Revue Vétérinaire.)*

COPROSTASIS AND COMATOUS URÆMIA FOLLOWING TRAUMATISM IN A YOUNG CAT [*M. Grobon*].—A little male kitten of seven months is so very thin and emaciated that it seems but three months old. For some time past it has had poor appetite and lately eats nothing—when he does he vomits all that he takes. For a week he has passed no urine nor fæces. His whole condition is such that evidently there is a general advanced auto-intoxication and comatous form of uræmia. External manipulations of the abdomen reveal the presence of numerous hard bodies, which fill the intestines and prevent the detection of the kidneys, rather mobile in cats. The bladder seems very much distended. The poor little fellow is chloroformed to death. Post-mortem: complete anæmia of all viscera; bladder much distended and contains a quarter of a litre of urine; kidneys very large, look as if they had been macerated; rectum in its whole length and three-quarters of colon packed with blackish excrement, as hard as stone and dilating the intestine to three times its normal diameter. The explanation of this coprostasis is given by examination of the vertebral column. All the ligaments and muscles being removed, the lumbar vertebræ, instead of having their normal shape and forming a curve with convexity turned upwards, have a marked incurvation due to the presence of a large bony callous, true tumor, formed at the inferior face of the vertebræ. While very young the kitten had received a traumatism which had fractured the vertebræ and an imperfect union had followed.—*(Revue Vétérinaire).*

SURGICAL ITEMS.

By Drs. Louis A. and Edward Merillat, Chicago, Ill.

RADICAL OPERATION FOR ŒSOPHAGEAL OBSTRUCTION IN SOLIPEDS.

Whenever a horse cannot be "unchoked" by the ordinary palliative methods usually practiced there is a surgical operation that is certain to prove effectual. The operation is still unnamed. It was described by the writer at the St. Louis meeting of the American Veterinary Medical Association in 1904, after having performed it several times during the two preceding years. Little was evidently thought of the procedure at that time as it evoked neither interest nor discussion. It was demonstrated at the Cleveland clinic in 1905 by Blattenberg, and was subsequently referred to by Phillips in a recent issue of the American Veterinary Review.

The operation is a washing out process accomplished by first passing a rubber tube down to the obstruction and then ligating the œsophagus in the middle cervical region to prevent the backward flow of the water that is pumped into the tube to wash the mass into the stomach. If a tube is passed into the obstructed œsophagus and no ligature applied there is always danger of flooding the lungs with the water. We have reports of chokes having been thus relieved without the use of the ligature, but these were evidently trivial chokes that would have been cured spontaneously even though the irrigation had been omitted. Horse chokes very frequently "cure themselves" even after several days and after all hope has been abandoned. It is in these trivial chokes that various "sure-shot" choke cures gain their reputations. Often eserine, apomorphine, atropine or a drench of oil, ulmas, etc., are credited with having cured œsophageal obstructions that would have nicely taken care of themselves had they been left alone.

From its pathologic aspect choke in solipeds stands alone. It is unlike similar accidents in the other species. In a word, the accident is *an impaction of a dilated tube.* The œsophagus within the thorax, as the result of previous impactions, is stretched, weakened, thinned out, and is incapable of performing its function. It is likewise unable to withstand any forcible intervention. The probang is out of the question. Its use is

always harmful because the mass is only packed tighter into the dilatation and the delicate walls of the œsophagus are always more or less injured by the forcible attempts to push the obstruction downward. Drenches are of little use as long as ptyalism is sufficiently profuse to lubricate the mass, but when salivation ceases they will serve a useful purpose. They then lubricate and provoke serviceable contractions of the weakened muscular walls, which then often slowly move the mass into the stomach. When all of these expediments have failed and the choked portion of the gullet is threatened with necrosis, radical intervention becomes the only sensible recourse.

The operation should never be performed prematurely, and on the other hand, it should not be postponed too long. Every possible form of palliative treatment precedes the operation, and when these have failed the surgical intervention should be promptly executed. A choked horse should be securely tied to a perfectly empty manger, where there is no access to a single spear of hay or any other kind of solid food. A bucket of clean cold water is placed within easy reach and a full dose of eserine sulphate is administered hypodermically. The attempts to drink water sometimes will wash down the obstruction and will always cause spasmodic contractions of the neck and thus assist in moving the mass. The eserine will at least stimulate the salivary secretion to greater activity and thus supply a still greater amount of dissolving fluids. Whether this alkaloid serves any other purpose is difficult to determine. In any event it has often been credited with having wonderful curative action. It can do no harm and should therefore be administered in every case. The empty manger, the bucket of cold water and the eserine is sufficient treatment for the first twenty-four hours. To attempt to force matters by frequent drenching is not advisable during this phase of the trouble, but at the end of twenty-four hours salivation will have ceased and nature's other reactive forces will be so nearly exhausted that drenching with lubricants, massage of the neck and gentle exercise must then be diligently and judiciously carried out. This line of treatment may be tried for the second twenty-four hours. In drenching, the head is elevated to a comfortable angle and the liquid is administered little by little. At the same time the cervical portion of the gullet is massaged from above downward with considerable force to send the fluid downward into the dilatation with as much force as possible. When seized with a desire to cough the head is released until the coughing ceases. Coughing alone

is mighty effectual in assisting to dislodge a choke. It shakes up the mass and thus favors the dissemination of fluids through it. The more a choked horse coughs the better. It not only helps to move the obstruction, but also clears the bronchial tract of aspirated ingesta. At the end of the second twenty-four hours the disease will have passed into the operative stage, and should then be met with radical treatment. Some isolated cases have been cured with palliative treatments after the third day, but procrastination after this time would not be taking full advantage of the possibilities. In many cases where the patient is old, the dilatation large and the gullet thin and weak, dissolution will supervene earlier than in the young, vigorous animal choked for the first time.

Modus Operandi.—The horse is secured with the twitch. The left side of the middle cervical region is selected as the seat of operation. It is clipped, shaved, and well disinfected in the usual fashion. An incision three inches long is made parallel to the œsophagus, which at this point lies on the supero-lateral aspect of the trachea in the jugular groove. The skin and subjacent muscles are divided until the œsophagus is well exposed. The twitch is then removed and the tube, well lubricated, is passed into the œsophagus by way of the left nostril. When the distal end of the tube reaches the entrance of the thorax a sterilized tape is passed around the œsophagus at the point lying exposed in the incision. The tape is tied firmly but not sufficiently taut to endanger the life of the incarcerated tissues. Water is then pumped into the tube until the œsophagus dilates at the distal side of the tape. In some cases the mass promptly washes into the stomach without much trouble, while in other instances it is dislodged only after repeated aspirations and injections of large quantities of water. When once the tube is in place and the tape adjusted, the surgeon has only to be patient in order to eventually succeed. Too great force must be avoided lest the delicate walls of the œsophagus at the seat of dilatation give way to the water pressure, the degree of which is determined by keeping the finger upon the œsophagus just below the tape. When the gullet is full the pumping is stopped until the water is allowed to aspirate out. The aspirated fluid will always carry along particles of the obstructing mass. Hay chokes prove the most obstinate because hay will not readily flow backward with the injected water, while those consisting largely of half masticated cereals can be entirely removed by aspiration.

The washing process is continued until the injected water flows into the stomach. The tape is then untied, the tube removed and the incision closed with sutures. If the incision has not been soiled it may be safely sealed without drainage, but if it has been handled with dirty fingers a drainage opening is provided at the distal commissure.

The operation, while effectual in every case when judiciously executed, is not entirely without fault. There is danger of rupture of the œsophagus and the discharge of its contents into the mediastinum and not infrequently the incision becomes septic and heals only after considerable trouble. A purulent wound in the jugular groove is always more or less threatening owing to the freedom with which secretions flow downward along the trachea. Again, there is often considerable danger that the œsophagus at the seat of the choke is injured beyond repair. It may be necrotic and cause the patient's death a few days later even though the obstruction has been removed. In other cases the inflammatory and much weakened state of the dilated gullet leaves the patient subject to subsequent attacks as soon as any amount of solid food is ingested. But in spite of these unfortunate results the operation cannot be discredited from any standpoint if applied at the proper time. To resort to it too early might be criticised on the grounds that simpler methods might have accomplished the same results, and to delay it too long will greatly lessen the chances of curing the patient at all. We have found that the third twenty-four hours is the opportune moment in most of the cases. In the aged horse where there is a history of a number of previous serious chokes or where there is reason to suspect the existence of a large dilatation of long standing, earlier operative intervention is justifiable.

It might be well to repeat that the incision in the neck should be made before the tube is inserted. The pain inflicted in making the incision will always provoke more or less resistance. If the tube is dangling from the nostril a sudden movement of the head may wound the Schneiderian membrane sufficiently to produce a hæmorrhage that will mar the procedure. And furthermore the finger on the exposed œsophagus serves the useful purpose of determining the course of the tube. In a choked horse it may pass into the trachea unnoticed.

* * *

CARCINOMA.

Carcinoma is about the "darkest" chapter in surgery. In

most every other disease the surgeon is fairly well acquainted with his ground. Causes are generally known, phenomena are well understood and effects are usually predicted with more or less accuracy in surgery. This, however, cannot be applied to cancer. Although carcinoma has been the object of very diligent investigations for years its etiology is still a mystery, its course is still unchecked and its cure is still as uncertain as ever. In the case of cancer the scientist has nothing to boast about, as the investigators have thus far been blocked at every turn. The fact that this fell disease stands sixth in the scale of the cause of death among human beings, its loathsome, encroaching characteristic, its certainty to eventually terminate fatally after a slow course, and the mental and physical misery it always brings to the afflicted, stand out as incentives to solve the problem of its cause. But in spite of the overwhelming importance of the subject nothing seems to have been achieved. Before the cause has been demonstrated successful treatment can hardly be expected. For a time it was thought to be of microbian origin and a number of micro-parasites have been described as the causative factors. None, however, stood the test of more rigid, unbiased investigations and the microbian theory as a consequence has been temporarily abandoned. Heredity, race, species, diet, habits, climatic influences, social influences, preëxisting local inflammations, traumatism, and various forms of irritation, have all been carefully scrutinized in search of a causative factor, but with no convincing results. In short, *cancer is still a deep mystery.*

Although cancer is less important in veterinary surgery, the subject is one that must interest every student of pathology. Its frequency in domestic animals has not been determined because of the dearth of reliable statistics, and because there has been no systematic attempt, up to date, to classify the malignant tumors of animals from a strictly scientific differential diagnosis. In several of the large European clinics the subject has received some attention and statistics of more or less value have been compiled therefrom, but in America the veterinary profession cannot claim to have added anything to the knowledge anent this frightful affliction. In the largest clinics in this country, which, by the way, are found in the private veterinary schools, there is a shameful disregard for the scientific aspect of malignant growths. Tumors are ablated and thrown aside. If the growth recurs a diagnosis of cancer is made, if there is no recurrence the matter is dismissed without any further thought.

The world's knowledge of tumors in general is a vague one, the veterinarian's knowledge of them from their own investigations is nil. Readers of current medical literature cannot help but notice that there is at the present time an almost frantic effort to solve the problem of cancer, and affected animals of all species are being sought from various sources with that end in view. There is a great demand for animals suffering from neoplasms of whatever character. Experimentalists hope from this source to determine something that may guide them nearer to solution of this intricate and highly important problem. The veterinarians, especially those in charge of the large clinics, owe an effort to posterity, in this connection. Much might be deducted from carefully compiled data on the frequency, predilection, course, aspect, probable cause, etc., etc., of cancer in the different species of domestic animals. How soon will the veterinary profession have a few members who are willing to devote a few moments to work that brings no tangible reward?

* * *

THE IMPORTANCE OF DENTISTRY IN THE TREATMENT OF TETANUS.

When the treatment of a tetanic horse begins before the trismus has accentuated too far to prevent, the very first step should be that of filing the sharp points from the molars. If there are other dental disorders they too should be remedied. It is very surprising how well a horse with smooth and regular molar arcades will masticate grain and hay, even when the trismus is almost complete. When the enamel points on the superior molar denture are long and pointed as is generally the case, mastication is greatly hindered and the buccal surfaces are very often severely wounded in the patient's desperate attempts to masticate food. If these are well rounded food is ground and passed backward with much greater facility and the chances of recovery are greatly enhanced. Sharp points on the superior molars, owing to the contracted state of the masseters and buccinators will always inflict harmful wounds to the cheeks of a horse suffering from a severe tetanus.

DR. NELSON S. MAYO, Chief of the Bureau of Animal Industry of Cuba, has just issued as Bulletin No. 6, of the Department of Agriculture, a well-illustrated treatise on Texas Fever, the illustrations including the immunized pure-bred cattle taken from the United States some time ago, and which are doing good work in improving the herds of the little republic.

ARMY VETERINARY DEPARTMENT.

THE ARMY BILL.

FORT OGLETHORPE, DODGE, GA., May 22, 1906.

Editors American Veterinary Review:

DEAR SIRS:—Following is an extract taken from the *Army and Navy Register* of May 12, 1906: "A favorable report will be made from the Senate Committee on Military Affairs on the bill (S. 3927) to increase the efficiency of the veterinary service of the Army." When the Dental and Medical bills were before the Senate for consideration Senator Hale, who bitterly opposed them, is quoted as saying that "he had received hundreds of letters from prominent men of those professions urging him to vote for the bills, and no doubt his colleagues had also received as many letters." Both of those bills have passed the Senate. I wish he could say the same as regards receiving letters from prominent veterinarians urging the passage of the Veterinary Bill. Very respectfully, ROBT. J. FOSTER, D. V. M.,

Veterinarian 12th Cavalry.

* * *

FOREIGN SERVICE PAY FOR VETERINARIANS DENIED.

FORT RILEY, KANSAS, May 19, 1906.

Editors American Veterinary Review:

DEAR SIRS:—I write for publication in the Army Department of the REVIEW the decision of the Court of Claims in regard to the foreign service pay of veterinarians.

This claim was prosecuted by King Brothers, of Washington, D. C., in behalf of the veterinarians who had served in the Philippines, since the Comptroller of the Treasury ruled that since we were not commissioned officers we were not entitled to the extra pay.

The Court of Claims rendered an adverse decision on May 8, thus sustaining the ruling previously made by the Comptroller.

This decision shows the ambiguity of the words "pay and allowance," under which we receive, or rather do not receive, our pay and emoluments.

I send this information so that all those in the service may know the results, and be guided accordingly.

CHAS. H. JEWELL,

Veterinarian 13th Cavalry.

ARMY NOTES.

VETERINARIAN RAPP'S reason, given in the last REVIEW, for leaving the Army service is, that there is no future prospect. Since then, I am informed, he has applied to be re-instated.—(L. E. W.)

AN EFFECTIVE REMEDY FOR ERYTHEMA OR SCRATCHES OF THE HEEL.—Remove all hair, wash heels once only with warm water and soap, to which some mild disinfectant has been added, and apply the following preparation once daily: Glycerine, ℥ ij; zinc oxide, ℥ j. Mix well, spread on gauze, apply to part and cover with roller bandage. Usually two or three applications serve to heal permanently.—(L. E. W.)

CORRESPONDENCE

OPACITY OF THE CRYSTALLINE LENS IN HORSES.

FAIRFAX, S. D., April 23, 1906.

Editors American Veterinary Review:

DEAR SIRS:—I have a valuable pacing gelding which is blind from an opacity of the crystalline lens or a cataract in one eye and almost so in the other, and I would like those who have had experience with this kind of a case to report through these pages, in the next issue, their success and the treatment used.

My knowledge along this line is quite limited, and I think there are several others who can say as much, and very successful practitioners, too. This horse has been blind for more than a year in the left eye and nearly so in the right one. I have known him for the last eight months, and there is little or no change in the condition of the eyes, and I have seen him very frequently. He was raced last season, and, while he has a mark of :21, he could easily lower it to :13.

As near as I can find out, he has been over-exerted in a very hot sun racing, causing an overflow of blood to the head and an overdistention of bloodvessels of the eye, but none seem to be ruptured. It seems to me that the knowledge of our profession is quite limited in this branch of our work, and that the more scientific practitioners of our profession of to-day and the past have been very neglectful of deep study and research into the diseases and treatment, surgical and medical, of this very important little organ of animals, especially the horse, and he is the only one where the loss of sight materially interferes with

his usefulness and value. I would like to call your attention to the extent of the knowledge of the up-to-date optician and the many wonderful things done by them for the human eye, and what is the matter with us that we don't know more and be able to do more for our poor blind creatures, when the loss of their sight deprives them of the only pleasure of their quite miserable existence and dooms them to the hands of men in the most instances many times more brutal than they themselves are? I have had many men say to me, "Doctor, if you could restore that mare's, or gelding's, eyesight, I would give you $25 or maybe $50," and this case I have right now I would willingly give $150 if I could get him two good eyes again.

Very truly yours,

G. L. MEHOLIN.

[If our correspondent will consult Liautard's "Manual of Operative Veterinary Surgery," pp. 749-753, he will find a number of operations described whose objects are to remove or displace the opaque obstruction to vision. Many of those who have written upon the subject report good results, but say many failures are also encountered.—R. R. B.]

EXPERIENCES WITH VON BEHRING'S PREVENTIVE VACCINATION AGAINST BOVINE TUBERCULOSIS (By District-Veterinarian Schricker, Grönenbach; *Wochenschrift für Tierheilkunde und Viehzucht*, Vol. 50, No. 7).—S. performed the preventive vaccination in the young stock (76 animals) of seven stables, six of which stables were highly tuberculosis-infected, whilst one could be considered as almost free from tuberculosis. In most cases, the reaction of these animals to the first and second inoculation was but slight; not taking into consideration coughing; only a few animals showed fever temperatures. Later on, the author tuberculin-tested ten of the vaccinated young cattle and only one of them showed the typical reaction. So far, three of the immunized animals have been slaughtered; two of them (yearlings) were perfectly healthy, one showed calcified tubercular lesions of the bronchial glands and a tubercle, the size of a cherry pit, in the lung. The last mentioned animal was immunized according to Behring's method at the age of two years and therefore was in all probability already infected prior to vaccination. From these observations S. concludes that through the preventive vaccination of calves below the age of 4 months, which are not tubercularly infected, the resistance of these vaccinated animals to severe natural infection can be enhanced.

COLLEGE COMMENCEMENTS.

CHICAGO VETERINARY COLLEGE.

Commencement exercises of this school were held on March 29th, at 8 o'clock, in the lecture room of the college. The hall was handsomely decorated, and was filled with ladies and gentlemen, friends of the faculty and graduating class.

The Secretary's report was made by Dr. Joseph Hughes, which showed that 308 students matriculated for the session of 1905–6, and 98 graduated. The faculty, numbering sixteen, was made up of eleven veterinarians, four doctors of medicine, and one doctor of laws. The departments of microscopy, histology, pathology and bacteriology were much extended and amplified as compared to former years. The degree of Doctor of Comparative Medicine (M. D. C.) was conferred on the graduating class by Dr. A. H. Baker, who called each one, alphabetically, and handed him his diploma. Following is the list with their addresses: F. R. Akin, Pewaukee, Wis.; C. R. Andrew, Atlantic, Ill.; L. C. Appel, Highland, Ill.; W. Ashcraft, Monroe, N. C.; A. E. Byron, Bristol, S. D.; J. C. Buchter, Highland, Ill.; F. F. Brimkamp, Crystal Lake, Ill.; J. C. Brown, Nashville, Tenn.; E. N. Brown, Nashville, Tenn.; C. F. Beamer, West Union, Iowa; C. H. Beere, Bridgeport, Conn.; R. J. Coffeen, Albert Lea, Minn.; R. S. Cameron, Chicago, Ill.; L. R. Dillon, Pueblo, Colorado; R. F. Dean, North Salem, Indiana; Dondanville, Sheridan, Ill.; F. A. Daudel, Andrew, Iowa; R. P. Frans, Stronghurst, Ill; E. P. Farley, Paducah, Ky.; M. Fletcher, Decatur, Ill.; R. F. Fisher, Paducah, Ky.; J. J. Farrell, Eagleville, Conn.; H. A. Greer, Champaign, Ill.; M. E. Gleason, Roberts, Ill.; A. G. Gieske, Barrington, Ill.; M. L. Hynes, Urbana, Ill.; C. C. Hall, Villisca, Iowa; C. B. Hammatt, Cerro Gordo, Ill.; J. A. Hill, Honolulu, H. I.; T. W. Healey, San Jose, Cal.; L. F. Hartzell, Chicago, Ill.; F. Hecker, Albany, N. Y.; J. C. Harland, Duplainville, Wis.; F. R. Harris, Hillsboro, Ill.; A. D. Hubbell, Raritan, Ill.; E. W. Huenefeld, Watertown, Wis.; E. E. Howe, Des Moines, Iowa; E. W. Hanson, Beaver Dam, Wis.; J. E. Ingmand, Red Oak, Iowa; J. Jamieson, Brandon, Manitoba, Canada; E. J. Jenkins, Ravenna, Ohio; O. N. Johnson, Appleton, Wis.; W. F. Kaiser, Buffalo, N. Y.; R. L. Kramlich, Fogelsville, Pa.; H. L. Keene, Waterman, Ill.; G. Kirkpatrick, Barnard, Kansas; R. E. Krieger, Rolla, N. D.;

E. M. Lang, Louisville, Ky.; O. H. Lintner, Mendota, Ill.; C. H. Leavitt, Molalla, Oregon; R. Lovell, York, Neb.; R. E. Larimer, Geneva, Neb.; E. Mackey, Janesville, Minn.; A. L. Miller, Newton, Ill.; G. W. Maulfair, McNabb, Ill.; J. L. Montooth, Mt. Carroll, Ill.; C. C. Mix, Coldwater, Mich.; W. L. Migely, Chicago, Ill.; G. E. Metzger, Minneapolis, Minn.; W. J. Morgan, Aledo, Ill.; L. N. McNay, Humeston, Iowa; H. C. McCartney, Ellenville, N. Y.; R. A. McCartney, Ellenville, N. Y.; C. C. McIntosh, Monticello, Ill.; J. H. McElroy, Grant City, Mo.; W. V. Nesbitt, Maroa, Ill.; N. E. Nielsen, Chicago, Ill.; E. E. Oldaker, Iowa City, Iowa; H. L. Pool, Maquoketa, Iowa; C. B. Parker, Monticello, Minn.; H. C. Rogers, Oskaloosa, Iowa; A. F. Reichmann, Buena Vista, Iowa; R. C. Roueche, Guy's Mills, Pa.; F. C. Roach, Maquoketa, Iowa; A. F. Rank, Manitowoc, Wis.; T. H. Ruth, Desmet, S. D.; A. E. Rudolph, Farmington, Wis.; T. O. Shearburn, Walnut, Ill.; P. B. B. S. Scott, Galesburg, Ill.; G. A. Swingley, Freeport, Ill.; O. Silfver, Helsingfors, Finland; A. B. Sexsmith, Lyon, Mich.; J. N. Servatius, Ottawa, Kansas; A. L. Sederholm, Moline, Ill.; F. O. Seward, Marengo, Ill.; A. L. Smedley, Petersburg, Ill.; E. L. Stevens, Gt. Barrington, Mass.; H. H. Spencer, Rich Hill, Mo.; F. G. Tegg, Rochester, N. Y.; O. H. Titterud, Anoka, Minn.; E. E. Treiber, Norway, Mich.; R. F. Vermilya, Nund, Ill.; H. L. Wickwire, Elmwood, Ill.; F. H. Wessels, Petersburg, Ill.; C. W. Watson, Harpswell, Me.; O. J. Wingard, Montpelier, Ohio; C. B. Weagly, Hagerstown, Md.; P. Zenor, Mediapolis, Iowa.

KANSAS CITY VETERINARY COLLEGE.

The commencement exercises of this school were held in the auditorium of the Central High School, March 14. The faculty address was made by the Hon. Frank M. Lowe, who delighted his hearers with an account of the extensive and important service being rendered by the veterinary profession in continental Europe, he having made special observation of same during his visits to the continent.

Dr. R. C. Moore, President of the College, conferred the Degree of Doctor of Veterinary Science upon the following named gentlemen:—Alvin J. Abarr, Redding, Ia.; R. D. Abarr, Redding, Ia.; Anthony E. Amend, Wilsey, Kans.; Lonnie P. Arnott, Overbrook, Kans.; A. Clyde Barr, Waverly, Kans.; Ben E. Barham, Oak Ridge, La.; Richard F. Bourne, B. Sc., Del-

phos, Kans.; J. Kelly Callicotte, Windsor, Mo.; Geo. J. Collins, Tekamah, Nebr.; H. Ray Collins, Washington, Kans.; Chas. M. Cooper, Kansas City, Kans.; Evert C. Craven, Udall, Kans.; Dennis E. Crites, Daisy, Mo.; Bert Deuell, St. Joseph, Mo.; Elvon S. Dickey, Ph. C., Topeka, Kans.; Edw. J. Drake, Buffalo Gap, S. D.; Alex. F. Eagle, Chicago, Ill.; Wm. Wallace Eagle, Kansas City, Kans.; Wilton Elery, Anita, Iowa; Otto Emmitt, Hiattville, Kans.; Louis R. Fauteck, Kansas City, Kans.; Harry L. Fretz, Junction City, Kans.; Charles H. Gaines, Chilhowee, Mo.; M. William Games, Baldwin, Kans; J. Arthur Goodwin, Baton Rouge, La.; Asa E. Hoffman, Kansas City, Kans.; Edw. J. Igoe, Kansas City, Kans.; Sherman R. Ingram, Kansas City, Mo.; Philip M. James, Kansas City, Mo.; Edward F. Jameson, Kansas City, Kans.; Louis L. Jones, Girard, Kans.; Jesse Warren Joss, Fairview, Kans.; Paul Juckniess, Omaha, Nebr.; Edw. D. Kennedy, Rosedale, Kans.; Robert W. Keepers, Greencastle, Pa.; Albert D. Knowles, Nevada, Mo.; Albert R. Koen, Hillsboro, Ill.; J. Victor Lacroix, Hiawatha, Kans.; Walter J. Lacy, Jacksonville, Ill.; S. Frank Loffer, Maitland, Mo.; Roy C. Livers, Kansas City, Mo.; Daniel B. Leininger, Kansas City, Mo.; Wm. Lyons, So. Omaha, Nebr.; Chas. R. McCoppin, Wilcox, Nebr.; Robt. A. McCaulay, Cedar Rapids, Ia.; James I. Martin, Mt. Olive, Ill.; Jas. M. Mayes, Kansas City, Mo.; John L. Meixel, Aurora, Nebr.; S. Meade Meredith, Vinita, I. T.; Conrad L. Nelson, Kansas City, Kans.; Geo. C. Newberg, Kansas City, Mo.; Julian J. Parker, Athens, Texas; Herbert Pew, Hebron, Nebr.; Edward Pugh, Lawton, Okla.; Geo. F. Punteney, Frankfort, Kans.; Harry A. Reagor, Cambridge, Nebr.; Marion H. Rhoades, Kansas City, Mo.; Hartwell Robbins, Furman, Ala.; Forris L. Saunders, Cayuga, Ind.; Edw. H. Schaefer, M. D., Kansas City, Mo.; Robt. N. Sebaugh, Sedgewickville, Mo.; Henry Singleton, Houston, Texas; Hiram M. Smith, Zarah, Kans.; Jesse P. F. Smith, A. B., Kansas City, Mo.; Joseph Stafford, Auburn, N. Y.; Gola Steele, Oklahoma City, O. T.; David F. Stouffer, Bellevue, Nebr.; Joseph E. Strayer, Carleton, Nebr.; Charles A. Swanson, Tecamah, Nebr.; Hugh Thomason, Nashville, Tenn.; Harry R. Tice, Summerfield, Kans.; Elmer E. Trabert, Milford, Nebr.; A. Thos. Waddill, Windsor, Mo.; Dick E. Warner, Kansas City, Mo.; John H. Webster, San Francisco, Cal.; Jesse B. Williams, M. D., New York City, N. Y.; Geo. H. Woolfolk, Brandenburg, Ky.; Geo. D. Young, Kansas City, Kan.

SOCIETY MEETINGS.

OHIO STATE UNIVERSITY VETERINARY MEDICAL SOCIETY.

The first annual banquet of the O. S. U. Veterinary Medical Society was held in honor of Dean David S. White, at the Great Southern Hotel, on Wednesday evening, March 14.

The tables were finely decorated. A sumptuous eight-course dinner was served in a style characteristic of the Southern management.

At the conclusion of the feast, Mr. Stanton Youngberg, President of the Society, delivered the address of welcome, and said in part: "Gentlemen, we are assembled here this evening on an occasion which we hope will mark an epoch in the history of our Society and College, and at the same time be established as a precedent that should be followed as long as this institution of learning exists. We are here to celebrate the first annual banquet of the O. S. U. Veterinary Medical Society.

"But that in itself is not the sole object that impels us to this gathering. We are here above all for the purpose of paying our respect to and expressing our love for a man who by his painstaking and untiring efforts has raised our college to its present high standard, and besides was the man most instrumental in the founding of this Society and its guide during the first tottering steps—Our Honorable Dean, Dr. David Stuart White.

"To the distinguished friends and to the alumni who are present, on behalf of the O. S. U. Veterinary Medical Society, I bid welcome."

At the conclusion of his address he introduced as toastmaster, Dr. Albert M. Bleile.

Dr. Bleile with a few pithy and well-chosen remarks called upon Dr. Thompson, President

of the University, who responded to the toast, "Education as a Profession." Dr. Thompson dwelt on the value of education in training and sharpening the mind to grasp a subject readily and analyze it accurately. The man thus developed is always on the alert and able to meet emergencies whenever they arise. Education is a profession in that it teaches the man to have confidence in himself and to be able to tell when he does know a thing and when he does not.

The toastmaster next called upon Dr. H. W. Brown to respond to the toast, "Success in Practice." Dr. Brown spoke of the radical difference between the old "horse-doctor" of some years ago and the educated, scientific veterinarian of to-day. He said that to elevate the profession in the eyes of the public from the old "horse-doctor" type, the veterinarian should choose for his associates the better class of citizens and by skilful work and strict integrity impress upon them that the veterinarian of to-day is a man of education. By becoming a member of some riding club or like organization, he can in that way gain their patronage and through them that of many influential citizens.

Dr. D. Hammond Udall responded to the toast of "Problems of a Graduate," and said in part: "Advice with reference to entering the field of practice or of government work is superfluous. Acting on the advice of others is often precarious for the one advised. Most men by the time they become seniors are fairly well acquainted with the conditions on which success depends on each. They are usually better acquainted with their own limitations and circumstances than any person upon whom they may call for advice. As in all professions certain individuals enter it because it seems to them to be the easiest and surest way of procuring a livelihood; genuine interest in the profession may be acquired before graduation or it may not. In the latter case the student is handicapped in the struggle for existence regardless of the branch to which he turns his activities.

"Criticism seems to be a legacy that falls to every person who attempts anything. The hard kicks do not all come from four-footed creatures. Often the criticisms are undeserved. The errors that deserve criticism often go undetected. Criticisms should not cause one to lose sleep; on the other hand they should not be ignored. They frequently give one the clue to the correction of mistakes; and they are most powerful stimulators of hypnotized energy. They are often needed to awaken one from the conceit of self-satisfaction. One gets more meaning out of an article on a certain disease after having been thoroughly scarified for his

method of treatment of this affection. Criticism often gives one valuable free advertising."

Mr. George A. Pfaffman, in behalf of the Seniors, responded to the toast, "Senior Retrospectus." He gave a brief review of the three years spent at college, starting from the first day "when we entered the portals of learning with vernal simplicity up to the senior year, that year when so many conflicting emotions strike the heart." And told how in after life "although we may forget the size and shape of the nucleus of an epithelial cell, or whether a tubercle bacillus has rounded ends or not, we never shall forget the love and the friendship and the daily sacrifices of our professors, and above all the principles of a manly character instilled into us by them." And closed with a request of his under-classmates "that they hand down from class to class all the noble thought and sentiment expressed here this evening as a tradition of this our newly organized O. S. U. veterinary college spirit."

The next speaker was Dr. James McD. Phillips, who responded to the toast of "Our Sister Profession." He spoke in part: "Dr. Thompson has just asked me what the feminine of veterinary medicine could be, as he was wondering what the sister profession was. For a moment I was at a loss to answer, but after considering the question I concluded that both veterinary and human medicine are feminine; because I have known men to be wedded to both professions. I have also known many men to be too much in love with the almighty dollar to be in love with any profession."

"These sister professions are only half sisters, their common dam is the scientific foundation, but the paternity of the one is the saving of human life and the alleviation of human suffering; of the other the saving of dollars. In other words, the veterinarian is obliged to consider every question from its economic standpoint, although much of his work, especially that of the meat and milk inspector, has to do with the prevention of human disease.

"Just as a bear has evolved from a grass-eating dog, so was man evolved from a money-making monkey. Every practitioner of your calling is subjected to a constant series of temptations which tend to develop the latent money love of the monkey in him. Yielding to constant temptations is what has brought the veterinary profession down to the level of 'horse doctors.' Happily the veterinary profession is now represented in nearly every city in the country by at least one honorable

and capable man. These men are elevating the calling,—a work in which I trust all of you will join. And if you will but let a good part of your scientific training stick to your bones and be *absolutely square* in all of your dealings I will guarantee you financial success and far better,—the respect of your community."

The next speaker was Mr. A. F. Schalk, who on behalf of the freshmen responded to the toast "The Veterinary Medical Society." Mr. Schalk said in part: "In November, 1897, the O. S. U. veterinary students met and effected an organization known as the 'Ohio State University Veterinary Association.' The roll sheet at this time contained 45 names. This society convened sometimes weekly, semi-monthly, bi-monthly and finally ceased late in 1902. But the grave was not the goal, and resurrection came Feb. 9, 1904, when fifty-two spirited vets. reorganized the society under our present title of 'Ohio State University Veterinary Medical Society.' We are now glad to announce the proud roster of eighty members.

"What are the purposes of this organization? First, it affords excellent advantages for one to broaden his conceptions and increase his knowledge of the science of veterinary medicine. Secondly, it is a most efficient means of developing one's intellectual training. Further, all students who have been active members of the society for two years by contributing to and participating in its programs are entitled to a beautiful diploma, which, perhaps, though not the most highly prized sheepskin he expects to bag, nevertheless will be highly worthy of an honorary space on the walls of his later library."

Mr. Leo M. Steckel was called upon to respond to the toast "Our Dean." Mr. Steckel spoke in behalf of the junior class and said in part: "We especially esteem him for his chivalrous character, his keen judgment, and his unselfish devotion to a noble purpose. His sound and ready advice whenever asked does not fail to awaken in the heart of the receiver a true and friendly regard for the man. The noble example he has set forth spurs us on to enter the work with vim and zeal. His motto: 'Use judgment and be scrupulous' is a beautiful expression worthy to adopt as our guide. It is only regretful that our time as students here is so short, but when our college days are over and we are engaged in the battle of life, we shall look back with pride, love, and admiration to the man who has devoted his time and energy to prepare us for our calling, and who helped elevate the status of the veterinary profession.

"And now, Dean White, may you be blessed with many years of health, vigor and happiness, that the noble work you have thus begun will be furthered under your able guidance. May the Ohio State University under the leadership of its broad-minded president, and the Veterinary College, which you have raised to a level with the best schools of the country, be an everlasting source of knowledge and learning. May the ties of friendship we make here to-night as members of the V. M. S., as students, teachers and friends of the O. S. U., never be broken."

Dean White, in response, said that this was one of the happiest moments of his life, and one which would leave a clear, utterly unerasable picture on his mind. In fact it was really too good to be true and he could not help thinking that he was with little "Nemo" in slumberland and afraid to awaken lest it be all a dream. Dean White responding to the toast "Past and Present," said in part: "The growth of the College of Veterinary Medicine has been most gratifying. From a mere handful of students, taught the technical branches of our profession by a solitary veterinarian, and with no equipment beyond a lecture room, with a reputation bad within and without the University, in a decade we have grown to what you see here to-night—125 earnest students, a faculty of which six are veterinarians, a material equipment the best west of the Alleghenys and a standing among the best schools of veterinary learning in the country.

"However, we are not yet full-grown. Much work needs be done. As compared with what we hope to be, we have made but a beginning, only the nucleus around which the mental and material accumulations of the future are to form.

"Our future will depend largely upon the loyalty and standing of our alumni. Their love for the *Alma Mater* must be of the responsive kind. To be ready and willing at all times to stand by her, ever anxious to lend a helping hand, and always desirous of her welfare, instilling into the hearts of the people of this great State the respect for her which will assure her the blessings of permanent prosperity."

The Banquet Committees were as follows: Committee of Arrangement: George A. Pfaffman, Walter A. Brown, Fredrick B. Hadley; Program Committee: Leo Washburn, Leo M. Steckel, and Clark H. Hayes.

REUBEN HILTY, '07,
Secretary.

AMERICAN VETERINARY MEDICAL ASSOCIATION.

PHILADELPHIA, May 20, 1906.

Editors American Veterinary Review:

DEAR SIRS:—The following papers have been promised for the New Haven meeting of the American Veterinary Medical Association:

"Our Insect Enemies"—W. H. Dalrymple, Louisiana.

"The Agglutination Method for the Diagnosis of Glanders"—Veranus A. Moore, Walter J. Taylor, and Ward Giltner, New York.

"Some Bovine Surgical Operations"—J. C. Robert, Miss.

"Tuberculosis in Swine"—Richard Ebbitt, Nebraska.

"The Angora Goat and Sheep Industry of New England in Danger"—James B. Paige, Massachusetts.

(Title not given) P. A. Fish, New York.

"The Veterinarian as a Business Man"—D. Arthur Hughes, Illinois.

The following have made conditional promises of contributions and will probably furnish papers: W. L. Williams, New York; J. G. Rutherford, Canada; L. E. Willyoung, Kansas; J. F. DeVine, New York.

It will be seen from the above that more papers are urgently needed and should soon be announced.

The Committee of Arrangements announce the following: The headquarters will be at the Tontine Hotel, 149 Church St., which has also been selected as the place for the annual banquet. The rates, European plan, are $1.50 to $2 per day. There is an excellent café attached. The Hotel Garde makes a rate of $3.00 a day with bath, American plan, and $2.50 a day without bath. There are other hotels and boarding houses which give suitable rates. Dr. J. H. Kelly, 70 Olive St., New Haven, has charge of hotel affairs and reservations can be made in advance through him.

The sessions will be held in Harmony Hall, 9 Elm St., and the clinic will be held in a tent in the rear of the meeting place. The Committee have outlined various forms of entertainment for the visitors, such as a visit to Yale University and boat ride on Long Island Sound. The banquet will be held at 7.30 P. M., on Thursday, in the banquet hall of the Tontine Hotel.

It should be borne in mind that applications for membership should be in the hands of the Secretary by July 23d.

Respectfully, JOHN J. REPP, *Secretary.*

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The regular monthly meeting was held in the college building, 141 West 54th Street, New York City, Wednesday evening, May 2, with Dr. Roscoe R. Bell, President, in the chair. Secretary Mangan being absent on account of sickness, Dr. W. C. Miller was requested to act as secretary *pro tem.* The minutes-book not being on hand, the reading of the minutes of the preceding meeting was postponed, and the attendance was ascertained by count of those present. The room was well filled, and, while all were not recognized, the following members and visiting veterinarians were present: Drs. Roscoe R. Bell, George H. Berns, James L. Robertson, D. J. Dixon (Hoboken), Robert Dickson, Robert W. Ellis, E. A. A. Grange, W. Reid Blair, Theodore A. Keller, John F. DeVine (Goshen), W. Hayes, E. B. Ackerman, Chas. S. Atchison, George F. Bowers, Elishu Hanshew, John G. Slee, Chas. E. Clayton, A. Silkman, C. W. Shaw, Alfred F. Bollinger, C. Lamensdorf, R. A. Mackellar, Thomas G. Sherwood, R. A. McAuslin, J. T. Glennon (Newark), Veranus A. Moore (Ithaca), W. W. Andrews, Theodore E. Krey, David W. Cochrane, W. C. Miller, Wm. J. McKinney, and other visitors and students of the New York-American Veterinary College.

Prof. V. A. Moore delivered a very interesting and instructive lecture on "Agglutination as a Method of Diagnosis in Glanders," and exhibited tubes showing reactions in various degrees with the test fluid, and answered in detail many questions by the members.

Dr. James L. Robertson reported a case of "Hypertrophy of the Heart in a Horse," in which the heart weighed 28½ lbs., and exhibited a specimen of the heart muscles. There were present at the post-mortem Drs. Robertson, D. J. Dixon, and W. F. Harrison (of New Jersey). So far as any one present knew, this case constitutes a record as to size and weight.

Dr. DeVine, of Goshen, described a few cases in sheep that died from some unknown cause, which was discussed by Profs. Moore and Grange. It was suggested that the sheep had been poisoned by a wash used upon them for the destruction of ectozoa.

At the request of Dr. Dickson, Prof. Moore gave a short talk on foot-rot in cattle and sheep, its causes and treatment.

Dr. Slee spoke upon Tropical diseases, he having spent sev-

eral years in the Philippine Islands upon the Insular Board of Health. He described interestingly "Epizoötic Lymphangitis" and "Surra."

A hearty vote of thanks was tendered to Dr. Moore for his great kindness in coming from Ithaca to tell us about the new method of diagnosing glanders.

It was regularly moved and seconded that the Association send a message to Dr. Mangan, its efficient Secretary, expressing the sympathy of the members in his affliction, with the hope that he may soon be restored to his accustomed good health.

Adjourned until the June meeting.

W. C. MILLER, *Secretary pro tem.*

MASSACHUSETTS VETERINARY ASSOCIATION.

The twenty-second annual meeting and banquet of this Association was held at Young's Hotel, Boston, Wednesday evening, April 25th. There were twenty-six members present and one guest.

Drs. L. L. Pierce, H. W. Pierce and Edw. P. Dowd were elected members.

Drs. W. L. LaBaw, L. H. Howard and John F. Winchester were elected to serve on the committees of the Connecticut Veterinary Medical Association at the convention of the A. V. M. A. to be held in August.

The following officers were reëlected for the year 1906–7:

President—Daniel Emerson, M. D. V.

First Vice-President—Aug. S. Cleaves, D. V. S.

Second Vice-President—Calvert H. Playdon, M. D. V.

Secretary-Treasurer—Frank J. Babbitt, M. D. V.

The above-named officers with the following names constitute the Executive Committee: Benj. D. Pierce, D. V. S., L. H. Howard, D. V. S., and Chas. H. Perry, M. D. V.

It was voted to hold the monthly meetings at 5 o'clock instead of 7.30 P. M.

Adjourned to the banquet hall, where an excellent dinner was served. After dinner the report of the Secretary-Treasurer was read and accepted.

President Dr. Daniel Emerson then made an address, concluding by introducing Dr. Austin Peters as toastmaster. Dr. J. F. Ryder, of the B. A. I., was the guest of the evening. Dr. Peters called upon many of the members, who responded in a pleasing and able manner. Adjourned 10.30 P. M.

F. J. BABBITT, *Secretary.*

NEWS AND ITEMS.

DR. MARK WHITE, Denver, Col., has been reëlected veterinarian of the Colorado Kennel Club.

DR. H. A. ALCORN, Harlan, Iowa, was in San Francisco during the recent great disaster, but escaped all injury.

DR. J. G. ANNAND, Minneapolis, Minn., has taken the practice of Dr. J. W. Cook, Duluth Minn., who will rest for the present.

DR. A. T. EVERITT, who has been an inspector for the B. A. I. for fifteen years has resigned and begun practice at South Omaha, Neb.

DR. H. D. GILL, of New York City, President of the Road Drivers' Association, is winning laurels on the speedway with his stable of trotters and side-wheelers.

BOSTON has appointed a strong committee to act in conjunction with the Connecticut State Association to entertain the A. V. M. A. at Hartford, Conn., in August.

DR. R. W. MCCULLY, of New York City, was to have left on the 31st ult. for California to look after the yearlings of J. B. Higgins. He expected to be gone two weeks.

DR. C. F. LESLIE, Wahoo, Neb., has removed to Kalispell, Montana, where he will practice his profession. The change was made to benefit the health of his eldest daughter.

ALLOW me to congratulate you on your ability to keep successfully, annually, making the REVIEW better, spicier, and more newsy.—*(W. C. Hanawalt, M. D. C., Galesburg, Ill.)*

"I HAVE TAKEN THE REVIEW FOR TWENTY-FIVE YEARS, and I don't feel like stopping yet. Keep right on sending it till further orders."—*(C. D. Rathburn, Sherwood, Mich.)*

MESSRS. C. BISCHOFF & CO., American representatives of von Behring's Bovovaccine, have removed to 451–453 Washington St., New York City. Their mail address is Box 785.

DR. W. A. THOMAS, late State Veterinarian of Nebraska and the first veterinarian who located in Nebraska, after 25 years' residence in Lincoln, will remove to Weaubleau, Missouri, the middle of June. The Doctor has purchased land in his new location, where he will engage in the stock business.

DR. E. H. SHEPARD, Cleveland, Ohio, suffered the irreparable loss by death of his devoted wife, Effie J. Shepard, on May 13, after an illness of only four hours, from apoplexy. She was 46 years old, and she and the Doctor had been married 25 years and four months.

PRESIDENT W. L. WILLIAMS, of the New York State Veterinary Medical Society, and Secretary Garry T. Stone, are very active in behalf of the program for the meeting at Buffalo in September.

ACETONOMYCOSIS (A NEWSPAPER DISEASE)—INFERENCE—ACTINOMYCOSIS.—William T. Hornaday, director of the Bronx Zoölogical garden, who has expert knowledge of the habits of animals and their diseases, lies dangerously ill at his residence. To-day four surgeons operated on Mr. Hornaday for mastoiditis, which is an abscess within the head back of and below the orifice of the ear. He is still in a most critical condition. His is a remarkable case. It began ten days ago with tonsilitis, which, it is strongly suspected, he caught from a monkey with a bad sore throat, which he was treating. It may end, it is feared, with acetonomycosis, one of the rarest diseases in man and nearly always communicated from animals, in which it is far from common. The farmer whose cattle or swine suffer from acetonomycosis calls it "lumpy jaw."—*(Item going the rounds of the lay press.)*

TO IMPROVE THE BREED OF HORSES IN NEW YORK.—To encourage New York farmers to breed to the thoroughbred stallions which are being stationed through the State for stud service at nominal fees the Jockey Club has decided to institute a system of prizes for the best foals resulting from the use of these thoroughbred sires. At every county fair in the State the Jockey Club will give three prizes of $50, $25 and $10 for the finest half bred colts and fillies shown. As there are 104 fair associations in New York the total of prizes may be $5,200, if all take advantage of the Jockey Club's offer. In addition to these prizes there will be a series for the keepers of the stallions, $150 going to the man in charge of the horse that receives the best patronage, with $100 to the second and $50 to the third. Application blanks for stallions can be obtained by addressing the Jockey Club, Fifth Avenue, at Forty-sixth street.

MORE ABOUT THE WILD HORSES OF WASHINGTON.—*Ephrata, April 26.*—The rounding up army made thirty miles yesterday and went into camp at Parker's horn. As yet only occasional small bands of wild horses are being sighted, and so far it has been impossible to get more than a passing view, as the spectacle of the mounted men causes them to stampede for the hills. It will be two or three days before the round-up actually commences. It was at first proposed to round up in the corrals along Moses lake, but now it is thought that the first big drive

will be into Red Lockcoulee, where there is a natural corral. . . . About 500 relay mounts have been taken along and more will be gathered up as the cavalcade proceeds over the range. Two thousand of the horses to be corraled have already been purchased by a North Dakota syndicate. They will average about $10 ahead, the purchasers taking the whole band as they come, and everything above the yearling age will be counted. These will be brought up next week and shipped from Ephrata. The inroads of the settlers who are preëmpting all the land about the Columbia river valley has made the passing of the range imperative. It will mark the obliteration of the last vestige of the romance and story that has so particularly distinguished the West, and the wild horse of the range will pass into history.—*(Seattle Times).*

URSUS-CANIS (PRESUMABLY AMERICANUS).—Half bear half dog, a remarkable prodigy of nature, was brought to the city Wednesday morning from Nebraska by I. Pinter. It is the only known example of the crossing of the dog and bear families. "Teddy" is the name of the hybrid. His mother was a common stray dog of North Platte, Neb., a little bigger than a Scotch terrier and of the same general build and color. Father Bear has never been seen. The dam gave birth to a litter of five of the strange puppies, but four were born dead. The creature is now eleven months old and weighs about thirty-five pounds, but looks much heavier. At first sight the animal gives the impression of a peculiar kind of dog, although on closer examination the bear peculiarities are more evident. The ears are long and drooping, like those of a spaniel, the tail is also that of a spaniel. The eyes are large and have the mild, dog like expression. A bear has short upstanding ears, a stub tail never more than a couple of inches long and the eyes are small and quite different in expression and the manner they are set in the head. But the bear hump is very plain above the hindquarters. The legs are bear paws thick as a man's arm and short, with pads, that will in time make an impression similar to the human foot, and the claws are long. Teddy has never been heard to bark, but will occasionally give a modest bear's growl. In habits he is more like a bear than a dog, lying down on his side like bruin instead of upright as is the fashion in the canine world. He always lies down to eat. The animal shows very little intelligence and energy. He has not strength enough to walk upstairs and will refuse to go more than a mile at a time unless very slow progress is made.—*(Denver Times.)*

VETERINARY MEDICAL ASSOCIATION MEETINGS.

Secretaries are requested to see that their organizations are properly included in the following list.

Name of Organization.	Date of Next Meeting.	Place of Meeting	Name and Address Secretary.
American V. M. Ass'n.....	Aug. 21-24, '06	N. Haven, Ct.	J. J. Repp, Phila., Pa.
Vet. Med. Ass'n of N. J.....	July 12-13, '06.	Asbury Park.	W. H. Lowe, Paterson.
Connecticut V. M. Ass'n.....	Call of President	New Haven.	B. K. Dow, Willimantic.
New York S. V. M. Soc'y....	Sept. 11-12-13	Buffalo.	G. T. Stone, Binghamton.
Schuylkill Valley V. M. A....	June 20.	Reading.	W. G. Huyett, Wernersville.
Passaic Co. V. M. Ass'n.....	Monthly.	Paterson, N. J.	H. K. Berry, Paterson, N. J.
Texas V. M. Ass'n.....	Call Exec. Com.	.....	E. L. Lewis, Waxahachie.
Massachusetts Vet. Ass'n.....	Monthly.	Boston.	F. J. Babbitt, Lynn, Mass.
Maine Vet. Med. Ass'n.....	July 9, 1906.	Augusta.	R. E. Freeman, Dexter.
Central Canada V. Ass'n.....	.....	Ottawa.	A. E. James, Ottawa.
Michigan State V. M. Ass'n...	State Fair week	Detroit.	Judson Black, Richmond.
Alumni Ass'n N. Y.-A. V. C..	April, 1907.	141 W. 54th St	W. C. Miller, N. Y. City.
Illinois State V. M. Ass'n.....	July 12, 1906.	Bloomington.	F. H. Barr, Pana.
Wisconsin Soc. Vet. Grad.....	Call of Pres't.	Sheboygan.	S. Beattie, Madison.
Illinois V. M. and Surg. A....	.....	Decatur.	C. M. Walton, Rantoul.
Vet. Ass'n of Manitoba.....	Not Stated.	Winnipeg.	F. Torrance, Winnipeg.
North Carolina V. M. Ass'n...	.....	.....	T. B. Carroll, Wilmington.
Ontario Vet. Ass'n.....	.....	....	C. H. Sweetapple, Toronto.
V. M. Ass'n New York Co....	1st Wed. May	141 W. 54th St	D. J. Mangan, N. Y. City.
Ohio State V. M. Ass'n.....	. ...	Columbus.	W. H. Gribble, Wash'n C. H.
Western Penn. V. M. Ass'n...	1st Wed. ea. mo	Pittsburgh.	F. Weitzell, Allegheny.
Missouri Vet. Med. Ass'n.....	.....	.....	F. F. Brown, Kansas City.
Genesee Valley V. M. Ass'n...	July 12, 1906..	Roch t'r, N. Y.	J. H. Taylor, Henrietta, N. Y.
Iowa State V. M. Ass'n.....	.....	. . ... .	H. C. Simpson, Denison, Ia.
Minnesota State V. M. Ass'n..	July, 11, 12, '06	Minneapolis.	C. A. Mack, Stillwater.
Pennsylvania State V. M. A...	.....	.....	C. J. Marshall, Philadelphia
Keystone V. M. Ass'n.....	2d Tues. May	Philadelphia.	A. W. Ormeston, 102 Herman St., Germantown, Pa.
Colorado State V. M. Ass'n...	1st Mon. in June	Denver.	M. J. Woodliffe, Denver.
Missouri Valley V. Ass'n.....	June 18-19	Omaha, Neb.	B. F. Kaupp, Kansas City.
Rhode Island V. M. Ass'n....	June and Dec.	Providence.	T. E. Robinson, Westerly, R. I
North Dakota V. M. Ass'n....	.....	.....	J. A. Winsloe, Cooperstown.
California State V. M. Ass'n...	Mch. Je. Sep, Dc	San Francisco	C. H. Blemer, San Francisco.
Southern Auxiliary of California State V. M. Ass'n....	Jan. Apl. Jy, Oct.	Los Angeles.	J. A. Edmons, Los Angeles.
South Dakota V. M. A.....	July, 1906.	Brookings.	E. L. Moore, Brookings.
Nebraska V. M. Ass'n.....	.....	.....	Hans Jenson, Weeping Water
Kansas State V. M. Ass'n....	Jan. 8-9, '07.	Topeka.	Hugh S. Maxwell, Salina.
Ass'n Médécale Veternaire Francaise "Laval,".....	1st & 3d Thur. of each month.	Lect. R'm Laval Un'y Mon.	J. P. A. Houde, Montreal.
Alumni Association A. V. Col..	April each yr.	New York.	F. R. Hanson, N. Y. City.
Province of Quebec V. M. A...	.....	Mon. & Que.	Gustave Boyer, Rigand, P. Q.
Kentucky V. M. Ass'n.....	.....	.....	D. A. Piatt, Lexington.
Washington State Col. V. M. A.	Monthly.	Pullman, Wa.	Wm. D. Mason, Pullman.
Indiana Veterinary Association.	.....	....	E. M. Bronson, Indianapolis.
Iowa-Nebraska V. M. Ass'n..	.....	.....	A. T. Peters, Lincoln, Neb.
Louisiana State V. M. Ass'n..	.....	.....	E. P. Flower, Baton Rouge.
Twin City V. M. Ass'n.....	.....	.....	S. H Ward, St. Paul, Minn.
Hamilton Co. (Ohio) V. A....	.....	Cincinnati.	Louis P. Cook, Cincinnati.
Mississippi State V. M. Ass'n..	August, 1906.	Agricultural College..	J. C. Robert, Agricultural College.

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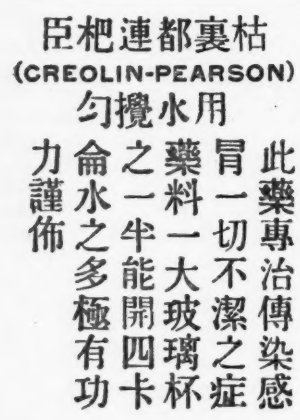

SENT TO SAN FRANCISCO.

A large quantity of Creolin-Pearson, enough to make over half a million pounds of this ideal disinfectant, was donated and forwarded by Merck & Co. to the authorities of San Francisco, immediately after the earthquake and fire had destroyed that beautiful city. The shipment was accompanied by instructions as to its most effective use, printed in several languages. The accompanying illustration, giving directions in Chinese for the use of Creolin, shows that the Celestials were not forgotten.

THE enterprise and courage of the members of the San Francisco drug trade were clearly exemplified during the recent disaster. Before the fire was extinguished they placed large orders with the manufacturing chemists. One house ordered 30,000 pounds of Antiphlogistine, and altogether over 100,000 pounds were shipped to the coast upon order within a week.

On a steamer from New York, running up the California coast at the time of the earthquake, were 35,000 pounds of Antiphlogistine, and upon orders from the home office, the emergency hospitals were liberally supplied free of charge.

ALKALOIDAL MEDICATION, HAS COME TO STAY alike in veterinary practice and human medicine, and its oral administration in canine practice is one of the greatest steps in advance, that has been made in the last decade. Abbott's small granules possess many advantages over the large tablets prepared by some other houses; the two principal being, their easy administration and ready solubility.

VETERINARIANS WANTED.

WANTED.—One veterinarian in every city or town to act as agent for the famous Schwartz Combination Instruments. Write at once for circulars, testimonials and agent's discount. Everything fully covered by patents. FRANK G. LANG, 242 Van Buren Ave., Bay City, Mich.

REVIEWS WANTED.

ANY one having October or December, 1903, September, 1905 or March, 1906, that they are willing to sell, will kindly communicate at once with the Business Manager of the AMERICAN VETERINARY REVIEW, Robt. W. Ellis, 509 West 152d St, New York.